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I

INTRODUCTION

WITH the partition of the subcontinent in 1947, Pakistan emerged as the largest Muslim state with one of the oldest and most distinguished cultural heritages of the world, striking its roots deep into pre-Islamic traditions. It has been a cradle of civilization, a centre of cultural diffusion, and recurrently a meeting-place of East and West. Here are to be found relics of Stone-Age man with an antiquity approaching half a million years, and extensive remains of one of the three great riverine civilizations of the ancient world. Contact with Iran and the West in historic times produced what is now well known as Gandhara art, and the last period of Buddhism is preserved in the lively and expressive sculptural art of East Pakistan. With the coming of Islam a new and vigorous pattern has been added to complete the picture. In a country so vast, with a cultural heritage so rich and varied, the Department of Archaeology, the custodian of these relics, has obviously an important and significant task to perform. On it devolves the responsibility of systematically safeguarding and adequately exploring and interpreting Pakistan's past. An attempt has been made here to give a brief account of the work done, and the problems faced, by the Department of Archaeology during the last—and first—15 years, from 1947 to 1962.

The Directorate of Archaeology was established soon after Independence in 1947 at Karachi, with Circle Offices at Rajshahi (later at Dacca) and Lahore, each under a superintendent.

In the beginning, the activities of the Department of Archaeology were restricted by the lack of trained staff and by economic stringency. Partition also deprived Pakistan of most of the material necessary for research work, which was largely left in India. In face of a multitude of difficulties the Department made a modest start and attention was concentrated mostly on the preservation of the principal monuments and excavated sites, some of them of outstanding magnitude.

Mr. Q. M. Moneer, the Director, was succeeded by Dr. Mohammad Nazim in November 1948, who in turn retired from service after three months. After an interval of two months, during which Mr. S. A. A. Naqvi held charge, Maulvi Shamsuddin Ahmed was appointed to the post of Director and continued in the office for five years, to 1954. In 1949 Sir Mortimer Wheeler, formerly Director-General of Archaeology in India, was appointed Adviser in Archaeology by the Government. He worked in Pakistan for limited periods during two years, and in 1950 established the National Museum of Pakistan at Karachi. In the same year he directed a

training-excavation at Mohenjo-daro. Side by side with these activities a systematic programme of exploration and excavation was worked out. The year 1951 saw the creation of the Exploration Branch in the Department. Its first Superintendent was Mr. Leslie Alcock, F.S.A., who began the excavations at Banbhore; but, because of the lack of trained technical staff, it was not until 1955 that excavation and exploratory work on any large scale could be attempted.

In 1954, Monsieur Raoul Curiel became the Director for a period of four years. After the end of his tenure in 1958, he was appointed Adviser in Archaeology for one year, until 1959. The period during which Monsieur Curiel held charge witnessed a great activity in the Department in all fields. Besides the upkeep of the existing monuments, excavations were carried out at a number of places: at Mainamati in East Pakistan; at Kot Diji and again at Banbhore near Karachi. These excavations were conducted by Dr. F. A. Khan, with a limited technical staff, and were continued after Dr. Khan himself became Director in 1958. The Department also collaborated with a number of foreign archaeological missions from Britain, America, France, Japan, and Italy.

With rare exceptions, the state of the museums of Pakistan was far from satisfactory. At the famous sites of Mohenjo-daro and Harappa, the existing small rooms for the display of objects were in fact a temporary measure contrived when excavations were in progress there in pre-Independence days. Now the increased activities of the Department necessitated a thorough reorganization of the existing site-museums and the establishment of new ones. Accordingly a development-programme was prepared, and the proposals were accepted by the Government as a part of the Second Five-Year Development Plan. As a result, the National Museum of Pakistan has been reorganized and new materials added. A new museum at Mohenjo-daro is near completion. The site-museums at Banbhore, Umerkot, Saidu Sharif (Swat), and Paharpur have been built. The museums at Mainamati, Mahathangarh, and an Anthropological Museum at Chittagong will be completed shortly. The Department also plans to construct a National Museum at Islamabad and a new site-museum at Harappa.

To overcome the shortage of technical staff, a training scheme was started in 1957 and, so far, 15 archaeological scholars, after training in the Department, have been absorbed into its various branches. The inclusion of young university graduates in the Department's excavations and field-work is now a routine practice.

The conservation problem is manifold. Widely differing building-materials, location, and climates involve complicated methods of repair and constant supervision. The conservation work of both parts of Pakistan has now been put on sounder basis than hitherto, with an increased technical staff.

An Epigraphy Branch has also been created in the Department to survey, collect, and study the epigraphical records of the country. To deal with reports, guides, handbooks, and the like, a Publication Branch has also been constituted. A number of books and brochures have already been

published and detailed reports on excavations are being prepared for early issue.

For the treatment and restoration of antiquities and other objects, an Archaeological Laboratory was set up in 1957 at the Old Fort, Lahore, and has now been fully equipped. It has been visited by Dr. A. E. A. Werner, Keeper of the Laboratory of the British Museum, in an advisory capacity.

A good central reference library is essential to the work of the Department, in addition to smaller libraries at the site-museums and circle offices. In 1947, there were less than 100 books in the central library; there are now over 25,000 books and periodicals.

THE ARCHAEOLOGICAL BACKGROUND

West Pakistan contains some of the earliest relics of Stone Age man in the subcontinent, particularly in the Soan valley of the Punjab, with a probable antiquity of 300,000 years or more. No human skeleton of this distant antiquity has yet been discovered there, but the crude stone implements recovered from the terraces of the Soan have been assigned to three inter-glacial periods, and divided into four phases—Pre-Soan, Early Soan, Middle Soan, and Late Soan, on the basis of geological stratigraphy, palaeontology, and typology. The whole long period, however, is still very obscure and needs much further exploration.

Later, some 6,000 years ago, there grew up amidst the rugged windswept valleys and foothills of Baluchistan small village communities which were taking the first hesitant steps in human progress; they were paving the way for the ultimate growth of a great civilization in the Indus plain. This early struggle in the borderland of civilization is a fascinating study; but there is at present a long and unbridged gap between the early agriculturists in these parts and their Stone-Age predecessors.

For while these primitive societies were still struggling against a difficult highland environment, a complex urban life was developing on the rich alluvium of the Indus. This Indus Civilization with its twin capitals at Harappa and Mohenjo-daro flourished for something like ten centuries (roughly 2500–1500 B.C.) and had early trade-links with the contemporary cities of Mesopotamia. It spread from the Himalayan foothills to the Arabian Sea, covering an area which is double that of ancient Egypt and four times that of Sumer; and southwards it extended to the Gulf of Cambay. On the early stages of this civilization, some new light was thrown by the recent excavations at Kot Diji in the Khairpur Division of Sind (p. 39), where a hitherto unknown culture preceded that of Harappa–Mohenjo-daro.

The semi-pictographic Indus script, inscribed on Harappa–Mohenjo-daro stone seals and pottery, has not yet been read, though about 396 signs have been listed.

This remarkable civilization declined in the centuries following 1800

B.C. for reasons not at present known. We have very rudimentary information about this period; and what happened afterwards till the Indo-Aryan invasion, which is thought to have occurred about or a little before the middle of the second millennium B.C., is also not known. Archaeological excavations so far have not yielded any clearly identifiable material relics of the Indo-Aryans, and it is indeed not before 1,000 years or more after the end of Mohenjo-daro that we are able to trace them again in ancient Pakistan.

The historic period of Pakistan begins towards the end of the sixth century B.C. when the north-western part of the country, then known as Gandhara, was absorbed into the Achaemenid Empire of Persia, and was in turn conquered by Alexander the Great in 327–326 B.C. Excavations at Taxila have yielded extensive remains of this period. After Alexander's death the great Mauryan Empire rose to power, and under Asoka, the third Mauryan emperor, the Gandhara region was converted to Buddhism. Gradually it became a great centre of this religion, and a remarkable school of Buddhist art, the so-called Gandhara art, developed here with strong Hellenistic and Persian influences under the powerful Kushans in the second and subsequent centuries A.D.

The impact of Buddhism can be appreciated from the innumerable stupas and monasteries scattered all over the area, and the very rich collection of Gandhara sculptures which they have yielded. Fine specimens of this art in stone, stucco, and terracotta have been recovered from Taxila, Takht-i-Bahi, Shah-ji-ki-Dheri (Peshawar), Sahri-Bahlol, Swat, Utmanzai and many other sites. This great period ended substantially with the invasion of the barbarian White Huns who devastated these regions in the fifth century A.D.

The early history of East Pakistan is still very obscure and incomplete. Recent archaeological discoveries however are beginning to narrow the gaps. At Mahasthangarh evidences of the Mauryan period of third century B.C. have come to light; and relics of the Gupta period dating from the fourth to sixth centuries A.D. are found more widely scattered over the province. In the eighth century A.D. the Guptas were succeeded by the Palas of Bengal, who gradually extended their power over northern India. They were Buddhists and were great patrons of art and culture. Under them East Pakistan became the last stronghold of Buddhism in the subcontinent, and a fine school of Buddhist art, the Pala school, developed here. Their contemporaries, the Devas, and their successors the Chandras, also Buddhists, continued the tradition, the grandeur of which can be seen in the excavated remains at Paharpur, Mainamati and other sites.

The Arab conquest of Sind in A.D. 712 marked the first impact of Islam on the Indo-Pakistan subcontinent. But archaeologically almost nothing was known of this impact before the excavations started at Banbhore in 1951.

Finally, standing monuments reveal the full glory of Islam during the Sultanate and Moghal periods in the fields of art and architecture, much of which is the close concern of the Archaeological Department.

SOME PROBLEMS

At the outset, the Stone Age of Pakistan with its unrelated materials poses many problems. After de Terra's exploration of the Soan valley in 1935, no systematic further attempt was made to trace the Palaeolithic industries of Pakistan and to establish their relationship with similar cultures outside the country. The subsequent Neolithic period is ill-defined and almost unexplored. The Department is now planning an expedition to explore the Potwar regions of the Punjab for Stone-Age relics; but the problem is basically geological rather than archaeological in character, and a primarily geological approach, for which the Department is not yet adequately equipped, is essential in this field.

Coming to the prehistoric period, it must be observed that, although Sir Aurel Stein and others have carried out extensive exploratory tours in Baluchistan, large areas are still untouched; and that even where investigations have been carried out, the materials collected prior to 1947 were retained in India after Independence. The Department of Archaeology therefore has in prospect a thorough survey not only of Baluchistan but also of Sind and the Punjab areas. In this work it has already welcomed the collaboration of a number of foreign archaeological missions.

In the Chalcolithic period the vast remains of the Indus Civilization revealed by excavation and exploration during the last four decades represent only its mature phase; little about its early stages is known as yet. The Department made an attempt in its excavations in 1950 to reach the water-logged lower and earlier levels of Mohenjo-daro, but with the machinery available did not succeed. New light, however, has been thrown upon the problem by the recent excavations at Kot Diji, where there is no water-logging problem. At the lower end of the time-scale it is generally accepted that the Indo-Aryans who began to infiltrate into the subcontinent from the north-west about 1500 B.C. may have been partially responsible for the eventual overthrow of the Indus Civilization. But archaeologically the Indo-Aryan invaders still defy identification.

In more recent periods, between the invasion of the White Huns in the fifth century and the coming of the Muslims in the eighth, history is shrouded in tradition and folklore, and cultural details again are lacking.

Coming to the early Islamic period, the problems are twofold: first, a total lack of archaeological material for comparative study; and secondly, a profusion of written documents, of varying and often doubtful value. The archaeologist working in the field therefore has very often no other choice than to fall back unaided on his meagre archaeological evidence. But after the pioneering work at Banbhore and after the classification of its early Islamic pottery and antiquities, there will for the first time be material of high value for comparative study.

In East Pakistan archaeological problems are magnified by geography and climate—by local conditions very different from those of West Pakistan. The remoteness and isolation of the region, the constant changes of its great river-systems, and difficult communications due to prolonged floods and

dense jungle, have so far been baffling enough to deter sustained archaeological investigation.

THE FUTURE

The work done so far by the Department of Archaeology, as briefly reviewed here, is sufficient to inspire hope, but it is merely a beginning. The task ahead is stupendous and will require planned persistence over a long period.

The primary task is to carry out a systematic survey of the entire country, to trace archaeological remains of all periods, and to prepare the way for excavation at selected sites, chosen to solve specific problems, to fill up gaps, and to establish relationships with cultures outside the country. In Baluchistan where archaeological work was so long confined to surface collection in comparatively easily accessible areas, a vigorous policy of selective excavation, in collaboration with foreign archaeological missions, will be necessary to co-ordinate the work already done in the field and to correlate and fit the heterogenous prehistoric cultures into a chronological framework. The vast unexplored areas of Sind, Baluchistan, the Punjab, and the Frontier regions—not to speak of East Pakistan—if subjected to such planned investigation, will certainly supply clues to some of the missing links. Areas like the Kachhi plain with its newly discovered Harappan town of Judeir-jo-daro between the Indus basin and the Baluchistan highlands, or the Cholistan deserts in the eastern border with their large concentration of Harappan settlements, may someday yield information of great significance.

The success of these projects will necessarily depend on the available resources and trained personnel of the Exploration Branch, which is admittedly not adequate at the present moment. But the training scheme of the Department is bearing fruit and the Government has been sympathetic to its monetary demands. There is indeed no reason why we should not face the future with measured optimism.

ACKNOWLEDGEMENTS

In bringing out this first issue of our Journal, my grateful thanks are due, above all, to Dr. S. M. Sharif, H.Q.A., Secretary of Education, Government of Pakistan, and Sir Mortimer Wheeler, Secretary of the British Academy, London. It is entirely due to the personal interest of Dr. S. M. Sharif in the activities of the Department of Archaeology and his encouragement that we have been able to achieve what is being presented in this volume. Sir Mortimer too has long been associated with archaeological research in Pakistan. As the first Archaeological Adviser to the Government of Pakistan shortly after independence, Sir Mortimer reorganized the Department of Archaeology, established the National Museum at Karachi, and carried out important excavations at Mohenjo-daro. His abiding interest in Pakistan's archaeology brought him back in 1958 to excavate at Charsada in the North-West. His published works—*Five Thousand Years of Pakistan*, *The Indus*

Civilization, *Early India and Pakistan*, and *Charsada: a Metropolis on the North-West Frontier*—are known to us all. And now, in spite of his heavy engagements, he has been good enough to find time to see the manuscript of this Journal through the press.

My special thanks are also due to my colleague Mr. S .A. Naqvi, Superintendent of the National Museum of Pakistan, who helped me to compile the material for this issue. My assistants in the Exploration Branch too deserve my thanks for their assistance. Finally, my thanks go to our printers, Messrs. William Clowes & Sons, for the fine printing and attractive get-up of the Journal.

30.11.63.

(Dr. F. A. Khan, T.Pk.)
Director of Archaeology
in Pakistan.

II

EXPLORATION

For the systematic survey of hitherto unexplored areas of Pakistan, steps have been taken by the Department of Archaeology with twofold objectives: first, to initiate and finance field-research through its Exploration Branch; and secondly, to control and co-ordinate extra-departmental research and fieldwork by universities and other institutions within the country, as well as by interested foreign scholars and archaeological missions. A number of foreign missions have already carried out considerable field operations in Pakistan and made valuable contributions to knowledge, working always in close collaboration with the Department.

(a) DEPARTMENTAL EXPLORATION

West Pakistan

Extensive explorations in the neighbourhood of Karachi, in Upper Sind, Las Bela, Makran, southern and northern Baluchistan, Bahawalpur, Swat and the Punjab have been conducted by the Superintendent of Exploration and his assistants. The following is a summary of the principal sites and results.

SITES IN THE KARACHI AREA

(i) *Pir Mango.* Traces of a small prehistoric settlement were discovered 10 miles north of Karachi on the eastern foot of the hillock on which the tomb of Pir Mango stands. The site is dotted with remains too fragmentary and scanty now to indicate on the surface the actual plan of the settlement. Chert flakes, shell fragments, potsherds with painted designs and mat-decoration are scattered over the ground; and remnants of partially buried stone walls are visible. The site has been encroached upon by the inhabitants of the locality, who have built here the pir's tomb and have also been burying their dead in the adjacent graveyard.

(ii) *Orangi.* The rugged region across the ridge to the north of the Karachi industrial area is locally known as Orangi. Here, a mile to the west of the seventh milestone on the Karachi–Pir Mango road, there is a grove of date-palms enclosing a stone-lined spring. To the south-east of the spring, amidst the barren and sandy land, small pieces of chert flakes and bits of pottery, weathered and devoid of any decoration, have been discovered

in abundance, suggesting the existence of a prehistoric settlement there. The true character of this site cannot be determined without excavation.

(iii) *Lyari River Area*. Eight miles north-east of Karachi along the Country Club Road and near the present Karachi University Campus, there are traces of microlithic stone implements over a wide barren area of sandy and gravel waste, sparsely covered by cactus and camel-thorn bushes and seamed by deeply cut dry stream-beds which lead to the Lyari river. Along these stream-beds micro-blades, blade-scrapers, and chipped cores are found in patches of a few yards in diameter, which indicate the existence of small prehistoric settlements. These have been much disturbed by the builders of the University. Departmental exploration yielded some microliths and one stone axe, but no pottery.

(iv) *Nel Bazar Site*. Near the Damloti Water Works, about 20 miles north-east of Karachi on the Malir–Damloti road, and about a mile east of the hamlet of Haji Allahdino on the left bank of Bazar Nadi, a small tributary of the Malir river, there are remains of a Harappan settlement amidst the Nel Bazar desert scrub and wastes, measuring roughly about 200 by 200 yards. The surface of the site is strewn with undressed stones, which originally formed part of structures still fairly well preserved in places. An examination of the surface-finds confirmed the chalcolithic character of the site. They include stone implements of the usual Harappan type, terracotta bangles, plain and painted potsherds, fragments of a storage-jar and perforated vessels, shell bangles, a tubular shell bead, a barrel-shaped bead of semi-precious stone, a terracotta wheel and a toy-cart frame, fragment of a terracotta 'cake', a stone ball, and fragments of copper tools.

ALOR

The ancient tower and remains of Alor are situated about 4 miles to the south-east of Rohri Town on the eastern bank of the Indus river. They have been identified as representing one of the early Islamic sites, contemporary with Debal, Nirun, Mansura, Mahfuza, etc., which were established by the Arabs after their conquest of Sind in the eighth century A.D. The site has been much disturbed by treasure-hunters and earth-diggers, who have made deep trenches and pits at a number of places, exposing a succession of burnt layers. The early strata, over which the Muslims subsequently built their city, consist of mud-bricks and mixed debris containing masses of pottery and other objects. The material collected from the superimposed Islamic levels associated with stone-structural remains, closely resembles that from the early Muslim levels of Banbhore.

GUJJO

Fifty-two miles east of Karachi on the Karachi–Hyderabad Road, and about a mile south-west of Gujjo village, to the south-east of the tomb of Haji Shaikh Turabi, there rises a 30–35-foot-high hillock of yellow limestone on the flat plain. Its south-eastern side is occupied by a circular fortification wall enclosing a number of small mounds, on the surface of which are found

chert flakes, shell fragments, and pottery. On the north side, a number of stone-built tombs, both plain and highly ornamented like the Chaukandi tombs, lie scattered over the area.

The remains represent three cultural phases; the earliest is prehistoric, the middle phase is perhaps Buddhist, and the third phase belongs to the Muslim period.

The surface of the small mounds in the fortified enclosure is strewn with potsherds, mostly of plain red ware but some bearing traces of painted decoration. A few of these mounds had been opened by treasure-hunters and remains of crudely built chambers with stone walls have been exposed. The pottery from these mounds consists of vases and dish-on-stands—the latter recalling the specimens found at Harappan sites. A collection of flints was also made, comprising flakes and cores.

This site, lying in the delta region, is one of the southernmost prehistoric sites of the Indus valley; but it was also occupied in later times.

QASIM KIRIO

Qasim Kirio is situated on the eastern side of the village of that name about 6 miles along the Nawab Shah–Sanghar Road. The site is surrounded by green fields and the main mound is 1,000 feet long, 400 feet broad, and 15 feet high, and seems to have been considerably reduced by the neighbouring cultivators.

Surface-examination revealed structural remains in mud and burnt bricks with fragments of plain and painted pottery, copper coins, and pieces of carved bricks. Stray bits of glazed pottery are also found which indicate that the site, originally of the Buddhist period, was occupied later by Muslim settlers. In the centre of the mound traces of a stupa are distinctly visible, while other structural remains represent parts of a monastic establishment.

DEH MARI SABRA

Deh Mari Sabra is situated near Dawaz Dhari railway station and is hemmed in by cultivated fields on all sides. The main portion of the mound measures 300 by 200 feet and attains a maximum height of 5 feet. Specimens of black-on-red pottery, fragments of perforated ware, and a terracotta bull collected from the surface show affinities with Harappan material.

MARI SABAR

About two miles to the north-west of Deh Mari Sabra there is another site locally known as Mari Sabar. The main body of the mound which extends from east to west measures roughly 400 by 150 feet; the height is about 15 feet. The site appears to belong to the Buddhist period, as attested by the mud-brick remains of a stupa in the middle of the mound, and fragments of carved bricks found on the surface. The bricks are reminiscent of those found at the Mirpur Khas Stupa. A collection of sherds representing pots of red ware with thin walls and painted decoration in black on red slip was also made.

RAHIM YAR KHAN

An interesting monument was visited near Rahim Yar Khan. It represents a well-preserved, multi-storied, temple-like structure decorated with friezes and mouldings in different stages of its walls. Rubbed bricks have been used in the construction. The burnt bricks measure 16½ by 11 by 2½ inches. Surface collections include pottery with stamped and painted designs. Pottery storage jars and charred wheat were found in one of the rooms of the site, which, in its last stages, seems to have been destroyed by fire. The temple may be ascribed to the late Gupta period.

JUDEIR-JO-DARO

A series of mounds locally known as Judeir-jo-daro is situated on the Kachhi plain 18 miles north-west of Jacobabad, between Jhatpat and Temple Dera railway stations, and about a mile west of the Jacobabad–Sibi highway. The site was identified by Mr. R. L. Raikes and reported to the Department. The over-all extent of the mounds is roughly 600 yards from north to south and 500 yards from east to west. Their height ranges from 25 to 35 feet. The main mound is divided by a number of rain-water gullies, which, on the analogy of Mohenjo-daro, might prove to be ancient streets. On the eastern side, there is a row of five small mounds, slightly isolated from the main one. The surface of the site is covered with potsherds and other objects of Harappan type.

Geographically, Judeir-jo-daro occupies an important position along the highway long used to connect the Lower Indus basin with Baluchistan and Afghanistan. This traffic accounts for the modern towns of Shikarpur, Jacobabad, Sibi, Quetta, and Chaman along its course. The presence of a number of ancient sites along the same line suggests a corresponding importance in ancient times.

The Kachhi plain today is a vast, semi-arid desert with a very thin population. In summer it turns into a veritable inferno. How so considerable a town could have grown and flourished here is difficult to explain at present; but the soil is rich and the water level is not very deep. With a slightly milder climate and more rainfall, together with artificial irrigation, the area could have looked very different in prehistoric times.

Pottery collected from the surface includes plain, painted, and incised examples, the plain type being most abundant. Its clay is well-levigated, well-fired, light terracotta or reddish in colour, often with a fine pinkish or creamy slip. On painted pottery, the designs are executed in zones and panels in black paint on red slip. The designs include the usual geometric, plant and bird motifs of the Harappa culture. Incised and stamped pottery is fairly common, and perforated ware occurs in considerable quantity. An unusual type of pottery, fairly common at this site but not found on other Harappan sites, is a greenish-grey ware. It has a rough and thick texture, and is mostly plain. In some examples the neck is coated with a thick black slip. The usual painted decoration consists of a few black-painted thin horizontal lines, and occasionally single loops.

Among the terracotta objects, model animal figurines are very common, together with bangles (some also of shell), beads, 'cakes', cones, balls, and toy-cart frames. These toy-carts are of two types: one with an open frame is of normal Harappan type; the other with a solid body is a new type.

The apparent scarcity of stone implements at Judeir-jo-daro is in sharp contrast with the abundance of other Harappan material; only half a dozen chert blades have been collected, and no cores.

PIRAK MOUND

About 7 miles south of Sibi, just to the west of the Sibi–Jacobabad highway, lies a small mound which was visited in 1956 by Mr. R. L. Raikes. It measures about 900 feet from north to south and 450 feet from east to west, with an approximate height of about 25 feet from the surrounding levels. Immediately after the rains the entire town-plan and the individual building-plans of the mud-brick structures are clearly visible. The buildings are large and regularly oriented with spacious rooms, long corridors and large halls. The associated pottery is of a type which has not been observed in any other prehistoric site of Pakistan; and as such, it is of considerable importance and significance.

Potsherds are abundant. They are of a dull, terracotta colour with thick, crude fabric and coated with buff or occasionally dull-red slip. The clay does not appear to have been well levigated or well fired, and has a brittle and cracked appearance. In sharp contrast to its crude hand-made fabric, the polychrome painted designs are of highly pleasing quality and technical perfection. These designs are all geometric, painted in black, brown, and sepia, with secondary red colour playing an important role, on buff or dull-red slip. They include checkers, solid, alternate or opposite triangles, lozenges, rectangles, squares and half squares—solid, hatched, or cross-hatched—and many intricate patterns, arranged in successful combinations and in zones and panels. It was observed that the frequency of the painted pottery in the southern half of the mound is much greater than in the northern half. The forms include straight-sided jars, open-mouthed vases, saucers, and cups. At present a late date in the prehistoric sequence is assigned to this culture on stylistic grounds in the absence of any definite information about its chronology.

This pottery was associated with many chert blades, some with clear glossy marks on their edges indicating use for cutting crops. A number of the blades have a serrated or notched edge like saw teeth. Chipped cores were absent, but a few large and rough chipped flakes collected on the surface may represent early stages of manufacture in the production of the finer blades. They are particularly abundant on a small southern mound, which, from the frequency of these and other objects, appears to have been the industrial area of the settlement.

A terracotta button-seal with compartmented design like those of the bronze seals from Shahi Tump is the most interesting of the minor objects, which, besides the chert blades, also include plain and painted terracotta and shell bangles.

A few potsherds with thick fabric, large handles and relief-decoration, which suggest a late Sassanian date, were collected from the top of the mound.

LUNI MOUND

This site, measuring about 400 by 200 feet with a height of about 30 feet, is situated near Luni village, about 8 miles north-east of Sibi. It has been much disturbed. Unauthorised digging by the villagers for gold and silver coins has been going on for ages, and there are deeply eroded gullies made by rains on all sides. Potsherds collected from the site represent mostly plain pottery with heavy, well-fired, red fabric. Decoration consists of stamped and relief designs. Large-handled jars and vases and spouted vessels of Sassanian type are quite common. Some polished red-slipped sherds were also observed. A silver coin of the Indo-Greek period was collected. A stone sculpture with Kharoshthi or Brahmi inscription was reported to have been dug out by the villagers from the site, but could not be traced. The settlement is assigned to the Buddhist period; an attribution consistent with the collected objects, datable from the Indo-Greek to Sassanian periods. But though the villagers reported the recovery of gold and silver relics, stone sculptures, and other movable objects, no building was traceable on the surface.

BOLAN PASS AREA

The exploration of the Bolan pass areas was undertaken by Mr. R. L. Raikes and the Department with a view to investigating possible camp-sites of prehistoric peoples on this natural route, as there is evidence of their movements on both sides of the pass.

(i) *Dranjan Site.* Near Kirta village inside the Bolan pass, about 36 miles west of Sibi, lies a group of three small low mounds, about 3 furlongs west of the Dranjan levy post. They are covered by a scatter of potsherds which spread over a considerable area on the lower ground all around. The main mound is about 200 feet long, 150 feet broad, and 18 feet high. There are traces on the surface of massive stone structures of solid and regularly oriented character. The large central structure appears to be the foundation of a square-based stupa, surrounded by subsidiary structures.

The second mound about 150 yards to the east of the first is occupied by the exposed foundations of a square hall, about 20 by 20 feet, and other structures. About 200 yards south of the main mound there is a low flat mound of about the same size, but the slope is so gentle that its outline is difficult to distinguish from the surrounding low lands. A concentration of potsherds on the top and slopes marks it as an ancient site, but no structural remains are visible on the surface.

The sherds collected from the Dranjan site, except those of the main mound, are of plain red pottery, coated with red slip and occasionally decorated with incised, relief, and stamped designs, and appear to belong to the Buddhist period. But on the main mound, though this red pottery was

predominant, there was a small collection of another type of pottery also, of much finer fabric, coated with light red or buff slip, and painted with designs which have affinities with those of Quetta and Faiz Mohammad wares. A few fragmentary black-on-red sherds with stylized pipal leaf appear to be analogous with late Harappan types. Though most of the sherds are fragmentary and difficult to identify, yet they show a variety of prehistoric types, a fact which is perplexing, particularly in view of the low elevation of the mounds and the likelihood that the accumulation above the gravel base could not contain much beyond the visible remains of the Buddhist period. Whether this indicates, therefore, an original camp-site of the mobile prehistoric hordes in transit through the pass cannot be ascertained at present without excavation.

(ii) *Rindli Mound.* This is situated at the mouth of the Bolan pass, just on the eastern bank of Bolan river, about 4 miles west of Dadar. It stands now as an isolated clay mound, about 500 feet long and 200 feet broad, distinctly visible in the midst of a flat plain. It is divided into two unequal parts; the height of the southern part is about 46 feet and that of the northern part is 26 feet. Half the mound has already been washed away by the river, exposing a long cross-section with different layers and structural remains.

At the base of the mound on the northern side is a decayed structure of mud-bricks, and a large number of glazed tiles were found scattered around, indicating that these tiles once embellished its outer facing. A little further down, a graceful Muslim tomb, probably of Moghal date, made of thin burnt bricks of large size and decorated with coloured glazed tiles, stands precariously on its decayed foundations, now largely eaten away by the river. The mounds proper lie on the southern side.

Pottery collected from the main mound consists mostly of plain red ware, heavy and somewhat crude in texture, while decoration is confined to incised, stamped, and relief designs commonly found on Buddhist sites. Sassanian pottery with characteristic relief decoration has also been noticed. Handles of various sizes and spouts are common. On the northern mound a few glazed sherds of the Muslim period were also found along with this type of pottery.

On the western side where the river swept away almost half of the mound, a fine cross-section shows exposed stone and mud-brick structures.

The site appears to belong to the Buddhist period, partly occupied later by the Muslims.

NORTH-BALUCHISTAN AND KALAT SITES

The Department of Archaeology conducted explorations in Baluchistan where surface-finds from sites in the Loralai, Zhob, and Quetta–Pishin districts of northern Baluchistan and the Mastung district of Kalat State were collected. The sites visited include Sur-Jangal, Duki, Dabarkot, Rana Ghundai, Sorani Ghundai, Moghal Kala in Loralai district, and Periano-Ghundai, Moghal Ghundai in the Quetta–Pishin district, and Damb Mobi on the road to Mastung in Kalat State. At Sorani Ghundai two large storage

jars containing decayed grain were recovered. Inside one of the jars was an earthen pot which most probably was used as a grain-measure. The bold relief-decoration on one of the jars representing strings of date-stone and twisted rope suggests a late date, perhaps Sassanian, for this type of pottery.

ISPELINJI VALLEY

Ispelinji valley is situated in the Sarawan territory of Kalat District, about 40 miles south-east of Quetta, 30 miles east of Mastung, and 15 miles due south of Kolpur railway station. It is a picturesque oval-shaped valley about 20 miles long from north to south and 7 miles broad from east to west, closed on all sides by high mountain walls. In the northern half of the valley rain-water accumulates to form a large shallow lake. Formerly access into the valley was by three difficult camel-tracks, one of which has now been developed for jeep traffic. The land is barren and inhospitable and maintains a thin population of semi-nomadic Baluch and Brahui tribes, concentrated in the southern part of the valley in two groups of villages, Ispelinji and Marv, six miles apart. Of the prehistoric settlements in the valley, two are situated near Ispelinji village, the third is near Sardar Khel village of the Marv group.

(i) *Ispelinji Mounds.* These were first observed by Mr. R. L. Raikes. There are two prehistoric mounds about a furlong east of the Ispelinji village, separated from each other by a distance of about 500 feet. The larger Mound I on the east is roughly oval in shape, about 450 by 300 feet with a height of 33 feet. Except for two pits dug by the villagers at the base of this mound, the site is undisturbed. Painted potsherds were found thickly strewn with other minor antiquities over the mound, covering its entire surface. A good collection of these was made for study.

The smaller or western Mound II, circular in shape and about 300 feet across with a height of only 10 feet, has a flat top. It appears that the villagers removed its top long ago for the construction of houses, but abandoned it on the discovery of prehistoric burials. Rains have exposed in one corner a few prehistoric skulls and bones associated with a complete funerary pot; these have been recovered for study. Pottery and other objects found on the surface of the mound were comparatively few, apparently on account of this disturbance and also probably because of the fact that it was a cemetery rather than a residential site.

Most of the potsherds lying so profusely on Mound I and also to some extent on Mound II are painted, the predominant element being a fine buff ware, ranging from light pink to greenish-buff in colour, with a thin, hard, and fine-textured fabric. The painted designs, almost all geometric, are executed in a fine, assured, free style with a soft brush over a buff or greenish-grey slip in purplish-brown to black colour. The designs include indented, stepped and oval motifs, a checkered pattern, chevrons of thick and thin lines, opposite solid triangles, solid half squares, circles and squares with indented edge, and a host of related motifs. Another closely related type

with similar painted designs in black paint, but with more fine-textured, hard and thin light-grey fabric, was found in association with the above wares in large quantity. These are the 'Quetta' and 'Faiz Mohammad' wares of Baluchistan.

Most of the sherds collected from these sites are fragmentary. But a few complete and semi-complete pots give a good idea of the forms, which include narrow-footed beakers with a slightly flaring mouth, straight-sided and flat-bottomed cups and beakers, bowls, and globular, narrow-footed vases, shallow dishes, etc. There is no handle or spout. All these types occur from the top to the base of the mound almost in the same frequency, and it is impossible to ascertain their relative sequence without excavation.

Mixed with these wares were sherds ranging from fine pink to buff colour, with black-painted and occasional bichrome and secondary red decoration, which seem to have affinities, though not very clear yet, with Kile Gul Mohammed, Togau, and also probably Amri-Nal types. They are still under study. The designs painted in brown or sepia over a pale red or buff slip, are mostly geometric: various step designs, multiple lines in panels, cross-hatched triangles in horizontal rows, various interlaced and loop patterns are common. But animal motifs are not entirely lacking. A fish in naturalistic style and an animal (hind quarters only) with cross-hatched body and hoofed legs may indicate relations with the 'Nal-Nundara' culture also. Stylized or naturalistic hatched pipal leaf is interesting, and so is also perhaps an overall circular pattern like fish scales. The painting was done in pale and fugitive colour. Most of the sherds of these types came from the base of the mounds.

A fragment of a terracotta bull from Mound II and a greenish buff male and a female figure from Mound I has been collected. The female figurine seems to be identical with a Mehi type (of mother-goddess) and is thus notable.

Other objects include chert blades, terracotta bangles, some bits of copper, semi-precious stone beads, banded agate and an alabaster bowl, and cup fragments, terracotta rattles and balls, and a few pieces of perforated ware.

A few burnt bricks of inferior type were found on Mound I. As there is no house built of burnt bricks in the neighbourhood, these bricks probably belong to the prehistoric settlement of this mound. On the eastern side, where the rains had eroded the steep slopes, some undressed stone blocks lying in the same alignment were exposed. These may represent foundation-courses of houses. No other traces of building have been observed on the surface.

Mound II is evidently a cemetery site. Slight clearance of debris at the eroded portion partially exposed three skeletons—two of adults and one of a child—in the same grave. The skeleton of the child, lying on its left side, slightly bent, was found in somewhat better-preserved condition. They were all buried roughly in the east–west direction, the heads being on the eastern side. The system of burial here thus seems to be complete inhumation of the Nal type, as observed by Hargreaves, where the interment of one adult and

two children in the same grave was normal; but more skeletons in a single grave were also found.

The pottery collected from this mound appears to be somewhat different from the usual 'Quetta' ware, and there are a number of sherds which show clear affinities with the Kile Gul Mohammed, Togau, and probably also Nal industries. They represent a variety of pink sherds with cross-hatched triangles, rectangles, an overall circular pattern, and a variety of line decorations, and complex geometric patterns.

A few sherds collected from both the mounds suggest the presence of late Harappan material also, but certainty is difficult at this stage as the sherds were very fragmentary and decayed.

(ii) *Sardar Khel Mound.* The mound, about 35 feet high, is only a stone's throw from the village of the same name, and is roughly similar in shape but somewhat larger in size to the Ispelinji Mound I. It is much eroded by rain-water channels and disturbed by modern grave-diggers who have covered it on all sides with new graves. Painted potsherds and minor antiquities of identical character (though lesser in quantity) with those of Ispelinji Mound I, were found scattered over the entire surface of the mound. The predominant types here, as in Ispelinji Mound I, represent 'Quetta' and 'Faiz Mohammad' wares. Kile Gul Mohammed, Togau, and Amri-Nal types were also found in small quantity. Minor antiquities were still less in number. The cultural sequence appears from the observations to be identical with that of Ispelinji Mound I.

(iii) *Ziarat.* Half-way between the Ispelinji and Sardar Khel sites, lies the village of Ziarat, named after an imposing Islamic monument, a massive tomb probably of Mughal date, which serves as a towering landmark in the valley. A few miles east of this monument there is a small mound which was reported to have similar prehistoric remains, but it could not be explored as the approach to it was very difficult at the time when the exploration of the valley was undertaken.

SAKESAR SITE: SALT RANGE

While doing some construction work at Sakesar, the highest point in the Salt Range in Sargodha district, the Military Engineer accidentally came across some ancient remains in 1959, and informed the Department of Archaeology. The site was subsequently investigated by an officer of the Department.

Sakesar, an isolated eminence towering above the surrounding low mounds of the Salt Range to a height of about 5,000 feet, is a picturesque place with a fine cover of wild olive and pine forests. The ancient remains were discovered on the highest peak, locally called 'Qoru-Pandu', situated at the north-eastern corner of Sakesar. Potsherds, much decayed and fragmentary and quite small in number, were found scattered on the slopes of the mound, mixed with dressed and occasionally carved 'Kanjur' stones. A few terracotta animals were also recovered. On the top the engineers had already removed about 15 feet of soil together with stone structural remains,

exposing foundations of solid Kanjur masonry. Among the heaps of stones removed from the ancient structures, a number of finely carved Kanjur blocks with interesting architectural ornamentation were recovered, which strongly resemble those of the Sirkap monuments at Taxila. Through the help of the military, four coins and one large inscribed stone block, reported to have been removed earlier from the face of the demolished ancient building, were also collected.

An examination of the undisturbed portion of the mound revealed extensive traces of masonry, hidden under and obscured by the piles of fallen stones and tall grass. The pottery recovered from this site is of plain red type with a few relief-decorated pieces. The terracotta pieces consist of a fragmentary head of a bull or horse with ornamental straps, the curved neck of a horse, and an elephant leg. The carved Kanjur pieces collected from the site represent ornamental brackets, pilasters, pillar bases, and capitals. Among them a Corinthian capital and a lotus flower piece are interesting.

This evidence strongly suggests that the site was that of a Buddhist stupa and monastery. The script of the inscription, which is yet to be deciphered, appears to be a derivative of Brahmi.

BUDDI SITE

About 53 miles away from Lahore on the main Lahore–Lyallpur Road, there is an ancient mound near Bucheke, called Buddi, measuring about 700 feet from east to west. Its approximate height is 30 feet. Potsherds, mostly painted, have been collected from the surface, which include some fragmentary sherds with stamped decoration also. It is a pinkish, well-fired pottery which shows some relationship with the Buddhist pottery of Pattan Manara site in Bahawalpur division. Unfortunately, the slopes of the mound are at present dotted with modern graves which have left very little of the surface free for any scientific investigation.

In the neighbourhood of this site there are about half-a-dozen other sites of similar character, stretching over a distance of about 6 miles to Nankana Sahib.

East Pakistan

MAINAMATI SITES

Five miles west of Comilla town lies the Mainamati–Lalmai range of low hills extending from north to south for about 11 miles. On the flat tops and slopes of these hills an extensive centre of Buddhist culture was accidentally discovered during the Second World War. A subsequent survey of the area led to the discovery of about thirty-three large and small sites, scattered all over the ridge. The Department of Archaeology undertook large-scale excavations at three of them, that is, Salban Vihara, Kotila Mura and Charpatra Mura. During the course of the excavations the whole area was explored and a number of new sites of the same period and culture was surveyed, bringing the present total to about fifty sites. All apparently

contain remains of religious establishments: stupas, shrines, and monasteries. No city-site has yet been discovered in spite of intensive search for it. At one place, however, on the southern side of Kotbari road at the foot of the Rupban Mura site, a large concentration of household pottery and other objects is associated with some exposed structures scattered over a large area, and appears to indicate the existence of a regular urban settlement of the Buddhist period hereabouts.

MOHANTER MURA

About 2½ miles east of Comilla town, on the other side of the Gomti river, are traces of ancient remains in Italla village, now covered by a low flat mound locally known as Mohanter Mura (the mound of the high priest). It is surrounded on three sides by a small ditch-like stream, called the Keya-Jhuri river. At present there is nothing on the surface of the mound except a comparatively late Hindu temple with heavy late-Moghal-type architecture on the bank of a water tank. There are burnt brick-bats and potsherds scattered over the surface. Mohanter Mura appears to conceal remains of the Buddhist period, as indicated by the potsherds. No excavations have yet been carried out.

THE VAISHNAB MURA MOUNDS

About half a mile north-east of Mohanter Mura and 3 miles east of Comilla, there are two prominent mounds locally called Vaishnab Mura, situated on the north side of the village of Kalikapur. The larger mound on the north rises about 20 feet above the surrounding paddy fields. The second one, slightly smaller, is about 15 feet high. An abundance of burnt brickbats and potsherds was found scattered all over the surface, and at places rains have exposed parts of ancient structures, apparently Buddhist shrines. The burnt brick and pottery are of the same type as those found in the Mainamati areas. These stupa mounds are associated with a huge tank on the north side, measuring approximately 2,000 by 1,000 feet. It is reported that on the northern side of the tank there are remains of a large monastery, which, however, could not be investigated by reason of the flooded paddy fields. The mounds of Vaishnab Mura are now in the private possession of four Maishan brothers of Kalikapur. The site is in grave danger of being totally obliterated by the encroaching fields.

HILL MURI

On the north of Italla village and due west of the Vaishnab Mura mounds there is a small mound called Hill Muri which appears to conceal the remains of a small shrine. The mound is very much damaged now and agricultural plots are encroaching on it from all sides.

Between Mohanter Mura and Vaishnab Mura, though there is no prominent high ground, a scatter of ancient potsherds was observed at a number of places, now very much disturbed by the village cultivators, and at one place inside a village a freshly dug pit for earth has exposed an ancient

brick wall. There are other visible traces of ancient Buddhist settlements here and there, but too fragmentary or dislocated to record.

(b) EXPLORATION BY FOREIGN ARCHAEOLOGICAL MISSIONS

Since 1949 a number of foreign archaeological missions have carried out archaeological reconnaissance in Baluchistan in collaboration with the Department of Archaeology. Extensive areas have been explored by these joint expeditions and new prehistoric sites have been discovered and investigated, while the cultural contents of well-known sites discovered earlier have been re-examined and checked. The collected materials and observations made by these expeditions, and more particularly the limited excavations carried out on important sites, have provided a suitable basis for a more systematic study of the chronology of prehistoric Baluchistan. The interrelationships of the complicated varieties of Baluchi cultures have now been established to some extent in their chronological context by these combined efforts; and it is to be hoped that co-operative work of this kind will continue.

BRITISH EXPEDITIONS TO KALAT, 1948 AND 1957

(*Contributed by Beatrice de Cardi, B.A., F.S.A.*)

Almost 40 years have elapsed since exploration by the late Sir Aurel Stein first produced evidence of prehistoric settlements in the uplands of Baluchistan. Since then a wide variety of wares has been collected from these sites, but in the absence of scientific excavation in that region it has been difficult to establish their relationship, cultural and chronological, or to place them in the wider context of the major civilizations of the Indus valley and western Asia. Some particularly distinctive Baluchi wares have prompted comparison with the pottery of Iran and Iraq where excavation has produced a sound chronology. The animal patterns known from sites in the Zhob have, for example, been compared with designs current in the Hissar culture of north-eastern Iran at the beginning of the third millennium B.C. and in a similar way the Kulli culture of Makran has been correlated with Early Dynastic Sumer.[1]

Analytical studies of this kind have done much to build up a tentative sequence but the method fails in the case of wares unknown outside Baluchistan. Fieldwork since 1947 has therefore been directed largely to relating such 'stray' wares to known cultures and to amplifying the broad chronological framework. In the Quetta valley trial-excavations[2] at Kile Gul Mohammed (Fig. 1), a mound 4 miles north-west of Quetta, revealed four

1. Stuart Piggott, 'Dating the Hissar Sequence—the Indian Evidence', *Antiquity*, XVII (1943), 169-182.

2. Walter A. Fairservis, Jr., 'Excavations in the Quetta Valley, West Pakistan', *Anthropological Papers of the American Museum of Natural History*, 45, 2 (New York, 1956).

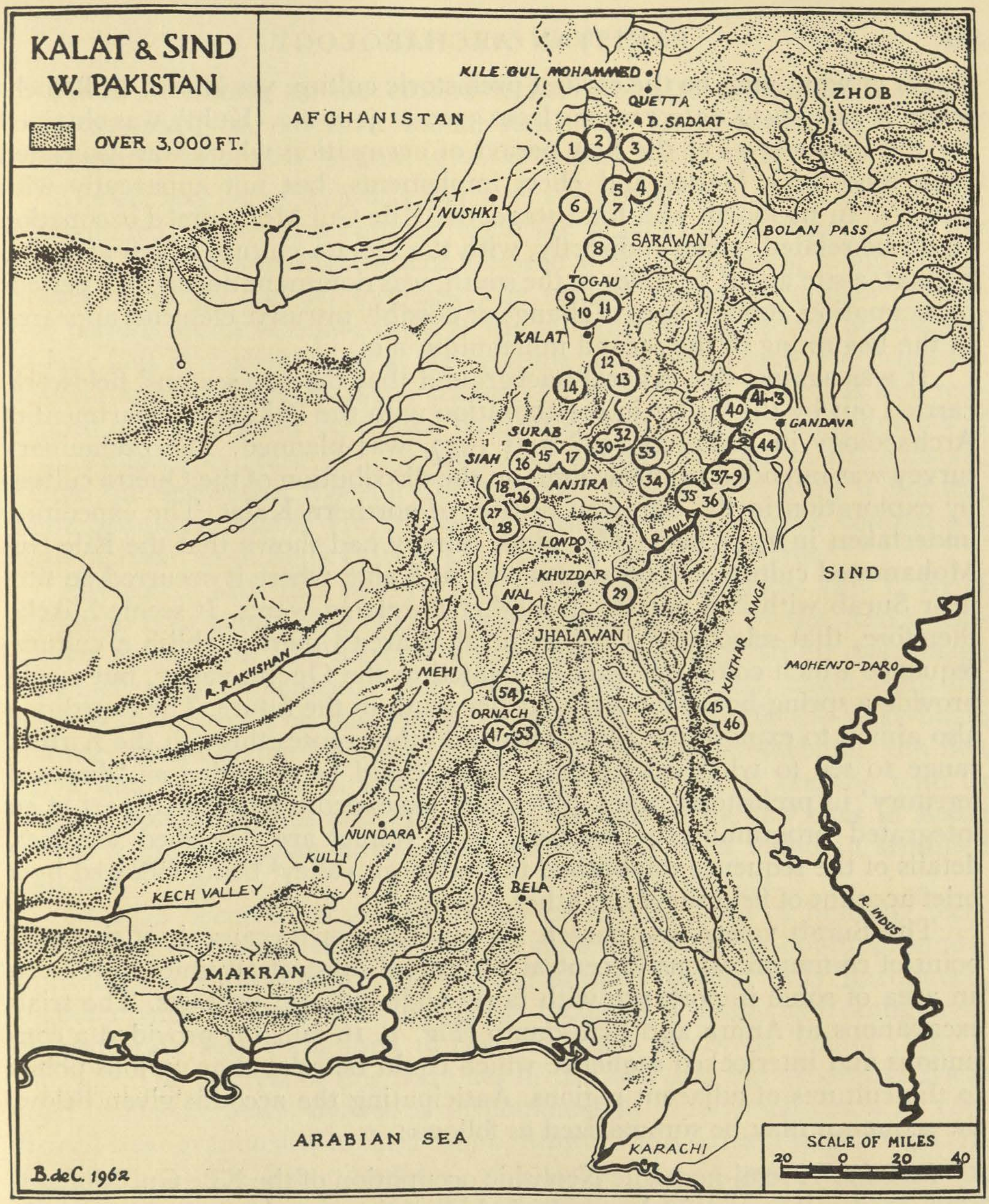


FIG. 1. Map showing sites discovered during 1948 and 1957

Key to Figure 1

1. Kafir Kot, Panjpai.
2. Tor Warai, Panjpai.
3. Mobi-damb, Pringabad.
4. Kulloi, Brinchinnau.
5. Shahr Sardar, Brinchinnau.
6. Kardagap.
7. Zahrazai, Mungachar.
8. Kullu-Kalat, Mungachar.
9. Togau, Chhappar.
10. Damb Zerga, Ziarat.
11. Malki, Kalat.
12. Burra Kapoto.
13. Chota Kapoto.
14. Unnamed site near Kuki-damb, Rodinjo.
15. Lena Singh, Surab.
16. Siah-damb, Surab.
17. Anjira.
18. Alizai, Surab.
19. Patki, Surab.
20. Gorpat, Surab.
21. Unnamed small mound, Surab.
22. Unnamed small mound, Surab.
23. Tegak, Surab.
24. Hadi, Surab.
25. Zari-damb, Surab.
26. Badu Kushtar, Surab.
27. Pir Haider Shahr, Gidar.
28. Rais Sher Mohammed, Surab.
29. Zidi, Khuzdar.
30. Reko, Nur Gama.
31. Zar Bhut, Nur Gama.
32. Kale-damb, Bulbul, Nur Gama.
33. Singen Kalat.
34. Mishk.
35. Jahan, Mula River.
36. Site near Jahan.
37. Kuhan, Mula River.
38. Unnamed site near Kuhan.
39. Khul, Mula River.
40. Kotra, Gandava.
41. Pathani-damb I, Gandava.
42. Pathani-damb II, Gandava.
43. Pathani-damb III, Gandava.
44. Fatehpur, Gandava.
45. Bamba, Shahr Gudro.
46. Unnamed site.
47. Nindo-damb (Mindowari), Ornach.
48. Kinneru, Ornach.
49. Kulli-damb, Ornach.
50. Shorei-damb, Ornach.
51. Karez-damb, Ornach.
52. Kunar Kull, Ornach.
53. Unnamed site, Ornach.
54. Phusi-damb, Ornach.

stages of what may be the earliest prehistoric culture yet known in Baluchistan. A carbon-14 date, ranging from 3500 to 3100 B.C. (Kulp), was obtained for the upper level of the first period of occupation which was associated with mud-brick houses and chert implements, but not apparently with pottery. In its fourth and final stage, the Kile Gul Mohammed occupation could be related, albeit indirectly, with the Quetta culture which at Damb Sadaat, a site about 14 miles to the south, was dominant during two periods of occupation, though signs of change or possibly intrusive elements appeared at the beginning of the second millennium B.C.

It was against this general background that the two seasons' fieldwork, carried out by the writer in collaboration with the Pakistan Department of Archaeology in Kalat in 1948 and 1957, was planned. The preliminary survey was intended to throw light on the distribution of the Quetta culture by exploration in the Sarawan district of northern Kalat. The expedition undertaken in 1957 had wider aims. Survey had shown that the Kile Gul Mohammed culture extended into central Kalat, where it occurred on sites near Surab with Nal pottery and other unrelated wares. It seemed likely, therefore, that selective excavation in that area would establish a cultural sequence which could not only be related to the Quetta valley, but would provide a spring-board for work further south in the future. The expedition also aimed to explore the Mula pass and other routes through the Kirthar range to see to what extent that region could be regarded as 'disputed territory' in prehistoric times. Since the two expeditions formed part of an integrated programme of research, their results are described together, details of the sequence established in the Surab valley[1] being followed by a brief account of field survey in other regions.

The Surab valley was chosen for investigation because it is the focal point of communications in central Kalat and must at all times have been an area of some importance with fairly wide cultural contacts. The trial-excavations at Anjira and Siah-damb (Fig. 1, 16 and 17) provided a continuous and interlocked sequence which could be related at various points to the cultures of adjacent regions. Anticipating the account given below, the sequence may be summarized as follows:

Period I: A semi-nomadic Neolithic occupation of the Kile Gul Mohammed culture, equivalent to Period II on the type-site and consequently datable to the second half of the fourth millennium B.C.

Period II: Continued occupation of the same culture with permanent settlement attested by mud-brick structures.

Period III: A transitional period marked by the introduction of Togau and Amri-Kechi Beg wares, in part contemporary with the early Quetta culture occupation of Damb Sadaat I.

Period IV: A period of expansion representing a local variant of the Nal culture.

1. A full report on the excavations will appear in the next issue of this *Journal*: for a fuller summary, see 'New Wares and Fresh Problems from Baluchistan', *Antiquity*, XXXIII (1959), 15–24.

Period V: Sherds on the eroded surface point to contact with people associated in northern Baluchistan with Damb Sadaat III at or shortly before the beginning of the second millennium B.C.

The occupation of Anjira began with the arrival of a group of Kile Gul Mohammed people who camped upon the gravel hillock overlooking the river. More permanent settlement followed with the building of mud-brick houses on rough boulder footings. The meagre domestic rubbish of these two periods serves to relate them to the intermediate phases of occupation at Kile Gul Mohammed. As at the type-site, the pottery included primitive vessels moulded within basketry frames (Pl. I, A, No. 6) as well as rich red-slipped and sometimes burnished buff ware (Nos. 1–5). A few fragments of a burnished grey ware (No. 7) are so far without parallel in Baluchistan. While the decorative repertory of Kile Gul Mohammed ware is limited, some geometric motifs are sufficiently distinctive to suggest comparison with material from Sialk culture sites in Iran and Turkmenia.[1]

Associated with this pottery was a flake-blade industry (Pl. I, B) of Neolithic type comprising chert scrapers, gouges, short blades, and a leaf-shaped arrowhead. The scarcity of geometric types suggests an assemblage in which such implements have been largely discarded, apart from the occasional lunate. The material is comparable in type to the flake-blade industry found in the Neolithic levels of the Ghar-i-Kamarband, the Belt Cave, and Sialk I–III. It assumes an importance out of keeping with its quality because Anjira and Siah-damb are among the few sites in Kalat where a pre-Harappan flake-blade industry has been found in stratified deposits.

Changes occurred at Anjira during period III both in building techniques and ceramics. Roughly squared stone replaced the boulder foundations of the earlier houses and cream-slipped pottery was introduced, together with other new styles. These included a distinctive orange/red-slipped ware first recognised during the 1948 survey at Togau (Fig. 1, No. 9).[2] The interest of this ware lies in the fact that the decorative frieze used inside the bowls showed a development in time which could be confirmed stratigraphically at Siah-damb, Surab. In its earliest stage, A (Pl. II, A, Nos. 1–4) the frieze consisted of a single row of processing animals, occasionally in the 'skid' position characteristic of the Hissar culture, birds and, in one case, linked human figures analogous to sherds from Chashmah Ali and Sialk III, 4–5. In stage B (Nos. 5–6), the body of the animal is suppressed leaving only the neck, head, and horns. By stage C (No. 7) the horns alone remain as a fringe of hooks, occasionally reversed towards the right, but still painted in black on a red slip. Recognition becomes further obscured in the final stage (No. 8) when the red ground changes to dark grey or black produced by firing in a reducing atmosphere.

As in the Zhob where the pottery of Rana Ghundai II shows Hissar

1. Sialk I and Geoksyur, 10–8.

2. B. de Cardi, 'On the borders of Pakistan: recent exploration', *Art and Letters, Journal of the Royal India, Pakistan and Ceylon Society*, XXIV.2 (1950), 54.

influence, so Togau-ware appears to represent a parallel development within Kalat in line with the Chashmah Ali–early Hissar cultures. Since a carbon-14 range of 3300 to 2700 B.C. has recently been assigned to material related to the early Hissar culture in Turkmenia[1] the Iranian connections of the Baluchi wares help to establish the absolute chronology of Kalat.

The extension of Togau-ware into Sind and its recent discovery in the earliest levels of the pre-Harappan occupation at Amri provides another useful point of contact. A similar association was noted on the Surab sites where red and cream-slipped pottery with simple designs of Amri type (Pl. II, A, Nos. 10, 13–15) occurred in the earlier levels of period III. In the north, a ware akin to Amri was found at Kechi Beg and served to link the Kile Gul Mohammed and Quetta cultures. It seems probable that these wares are variants of a single culture common to Baluchistan and Sind which, in northern Baluchistan, became submerged with the advent of the Quetta folk.

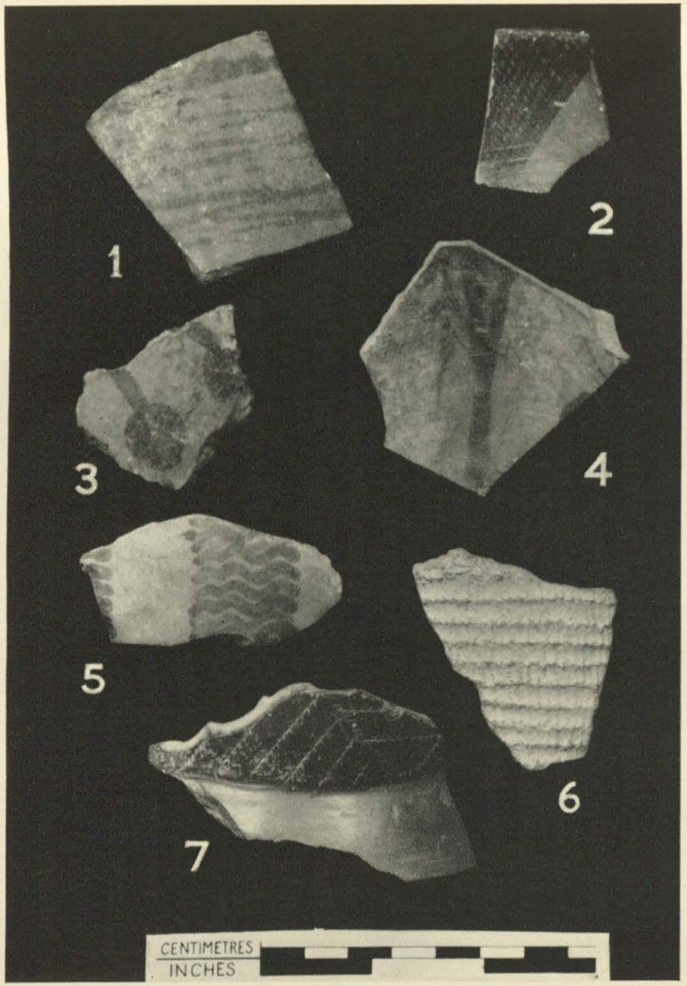
In the Surab area, the picture is less obvious. The character of the early bichrome ware changed towards the end of period III when elaborate zoomorphic and naturalistic designs, occasionally embellished with green and yellow paint, appeared (Pl. II, B). Stylistically, the new designs can best be classed as a local variant of the sophisticated pottery known from Nal. On the present evidence it is difficult to say whether they represent development in line with changes on a wider front or reflect the influence of an alien people. It is clear, however, both from the quantity of pottery used and from the occurrence of identical designs on sites 12 miles apart that manufacture was being undertaken commercially during period IV.

Associated with the finer pottery of this period were wares of a more utilitarian nature. Large globular jars with a sand-slipped surface (Pl. II, B, 11) recall modern Sindhi water-pots and may have served a similar purpose. A wider range of vessels was produced in a highly fired, black-slipped ware to which the name Anjira-ware has been given. This ware was often decorated with straight or wavy cordons, sometimes transformed into snakes (Pl. II, B, 9), a motif also used on the finer pottery (No. 4). Anjira-ware helps to relate the Nal and Kulli cultures since, although not previously described in detail, it is known from Kulli, and the levels of that culture at Shahi Tump, where it was associated with an incised pottery hut-urn of the type current in north-eastern Iran in a late Akkadian context (*c.* 2000 B.C.).

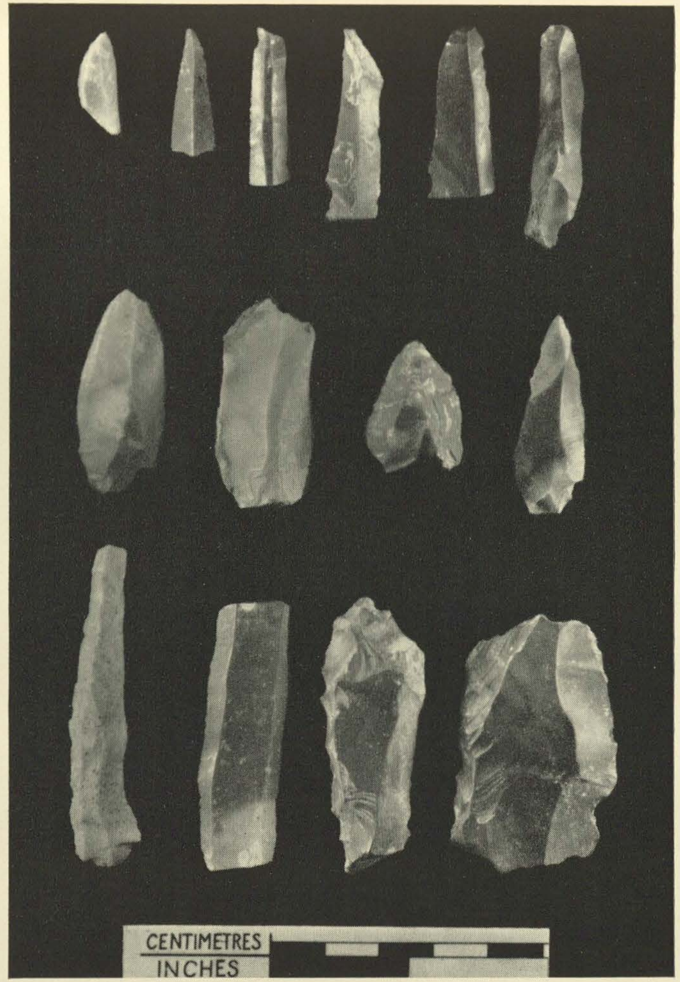
The higher standard of living implied by the pottery was reflected in the architecture of period IV. At Anjira this was evident in the rebuilding and considerable expansion of the settlement at that time. The houses consisted of narrow rectangular rooms with mud-brick walls set on well-squared stone masonry and included such amenities as doors, stone door-slabs, and cobbled floors. Their general layout was orderly, if somewhat overcrowded.

The history of the Surab sites closed with period IV since erosion had

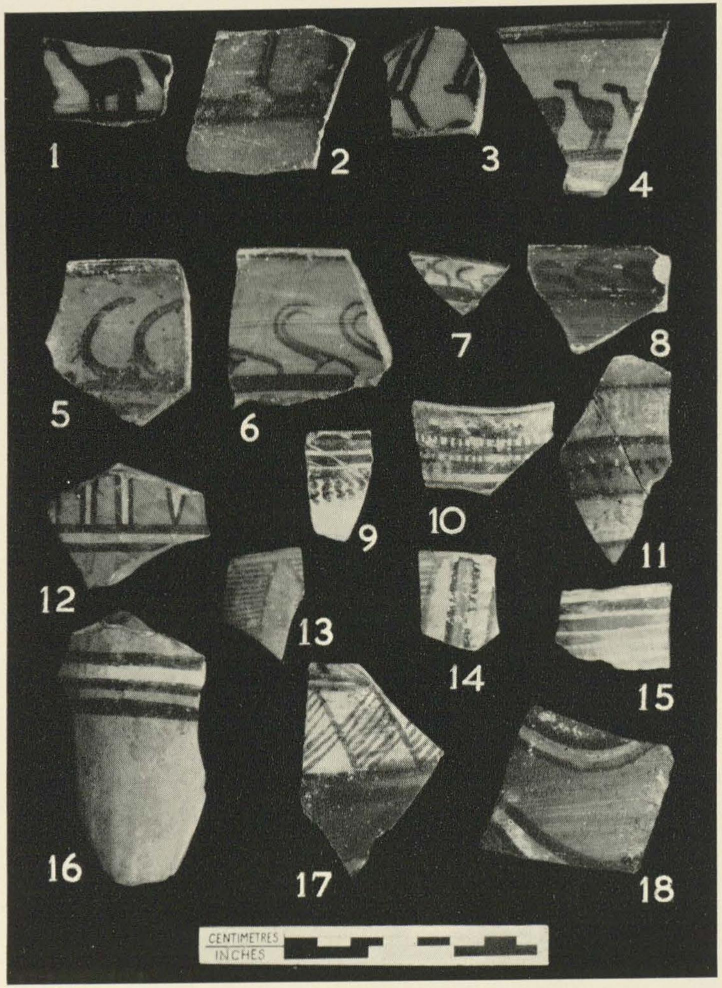
1. Namazga III has been related to Hissar IC–IIA and Sialk III, 4–7. For a summary of the results of recent fieldwork, see V. M. Masson, 'The First Farmers in Turkmenia', *Antiquity*, XXXV (1961), 203–213.



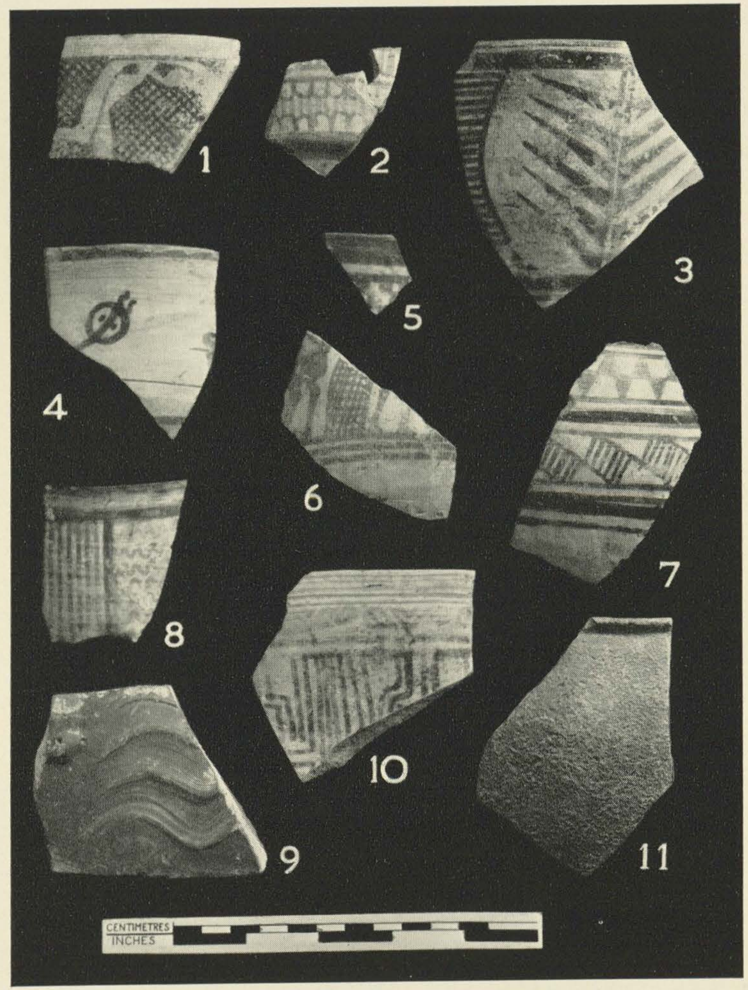
A. Pottery of Periods I-II in the Surab valley: Kile Gul Mohammed ware (1–5); basket-marked ware (6); burnished grey ware (7)



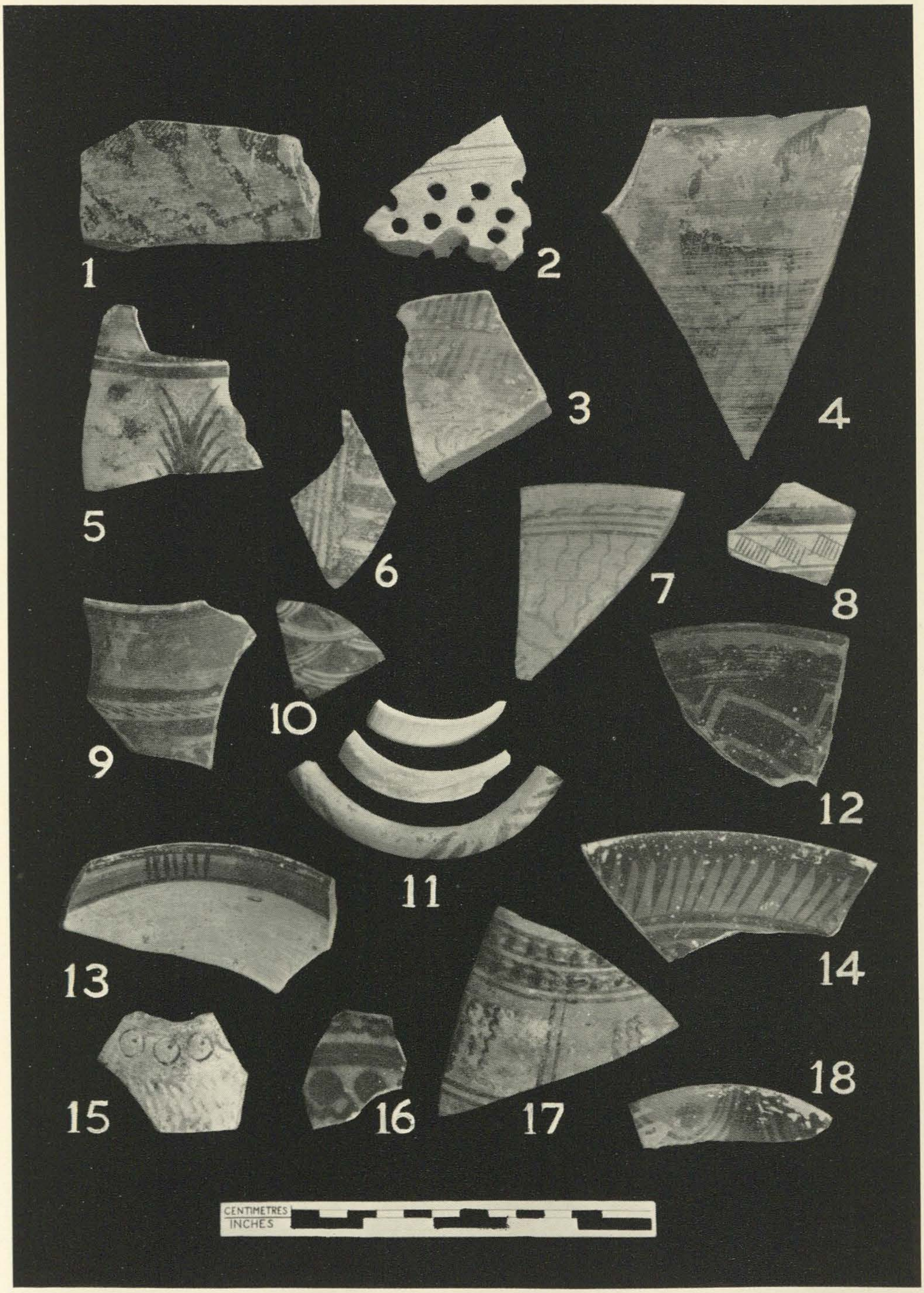
B. Chert implements from Anjira, Periods I–II



A. Pottery of Period III: Togau-ware (1–8); early monochrome and bichrome wares (9–16); Zari-ware (17–18)



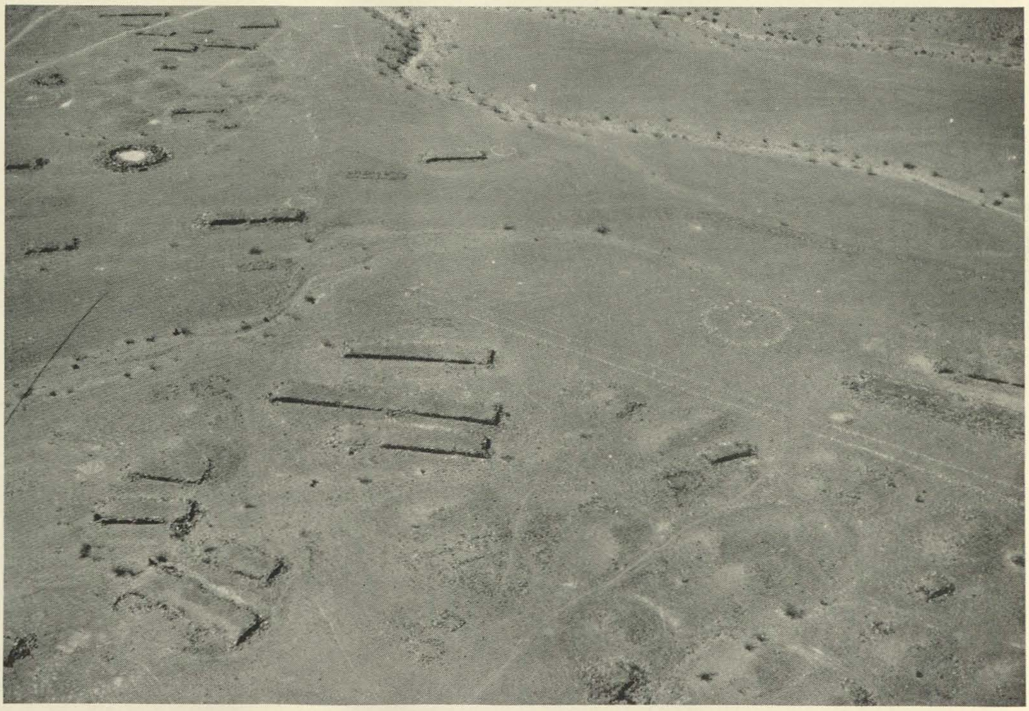
B. Pottery of Period IV: Anjira-ware, showing the head and tails of three snakes (9), and Granulated ware (11)



Surface sherds and bangles from Pathani-damb I and Kotra, Gandava, including Harappan (1–4); Sadaat (6); Faiz Mohammed Grey ware (7, 12); Loralai Striped (14); Quetta Wet (15); Jhukar (16, 18) and other wares



A. Damb Sadaat, Quetta Valley: pottery of the 'Quetta' culture (Damb Sadaat II)



B. Las Bela, Edith Shahr: structures of Complex B

removed all subsequent stratification. Surface sherds[1] and pottery in the upper levels of both sites, however, provided evidence of contact with the people who appeared in northern Baluchistan during Damb Sadaat III, a period dated by carbon-14 methods to within 2250–1850 B.C. Slight as it is, the fact is of interest as throwing additional light on folk-movements in Kalat at the beginning of the second millennium B.C.

An attempt was made, unsuccessfully, to extend the chronology of the Surab valley by trial-excavation at Alizai (Fig. 1, No. 18) where sherds of Londo-ware[2] were plentiful. This ware, first recognized during survey in 1948 in the Baghwana valley north of Khuzdar, can be traced on sites along the Kech valley, in Ornach, and northwards to Sarawan. At Alizai two types of Londo-ware were noted; one red-slipped, the other yellowish-buff. Both were hand-made in a coarse gritty paste. It was observed that the red-slipped pottery with black voluted scrolls and naturalistic patterns was confined to one area of the site. The buff-slipped ware with clearly debased designs occurred on the surface with cloth-marked and ribbed sherds[3] on another part of the site, but no stratigraphical relation could be established. Design elements on sherds collected during 1957 suggest some degree of Hellenistic influence and the provisional dating of this ware, based on analogies with pottery from Sialk VIB and designs on late Kassite and Babylonian boundary stones may require revision.

Exploration since 1947 has resulted in the discovery of a number of new sites (Fig. 1). It must, however, be stressed that the surveys were intended to define the spread of certain cultures over a large area, and do not represent a systematic search for sites within the regions covered, except in the Surab and Ornach valleys. Many mounds undoubtedly await discovery within territory previously explored. The small-scale survey undertaken in April, 1948, showed that Sir Aurel Stein's survey in Sarawan had been restricted largely to sites near the main road from Quetta to Surab. Exploration in the valleys of Mungachar, Chhappar and Ziarat, to the west of the road, yielded nine new sites (Fig. 1, Nos. 4, 5, 7–11, and two small mounds not shown on the map). As a result it was possible to extend the distribution of the Quetta culture, then restricted to five sites between Quetta and Damb Sadaat, and to trace the culture west as far as Nushki. The southern limits of brown-on-buff Quetta-ware were marked by sites near Kalat town (Fig. 1, Nos. 12 and 14) but Quetta Wet ware and Faiz Mohammad Grey ware, both probably of later date, extended to Surab. The same two wares were also found on sites along the Mula river (Nos. 33, 34 and 36) and on an extensive Harappan settlement, Pathani-damb I (No. 41), near Gandava in Kachhi. No early Quetta-ware was found among surface-collections made in these localities and it seems probable that, as in the Surab valley, the evidence

1. The wares included Faiz Mohammad Grey ware, and Quetta and Periano Wet wares, see Pl. V, 10, 13, 12, and 11 respectively, in *Antiquity*, XXXIII (1959).

2. B. de Cardi, 'A new prehistoric ware from Baluchistan', *Iraq*, XIII.2 (1951), 63–75.

3. A time range from the first to the tenth centuries A.D. has been suggested for ribbed ware in Seistan, see Walter A. Fairservis, Jr., 'Archaeological Studies in the Seistan Basin of south-western Afghanistan and eastern Iran', *Anthropological Papers of the American Museum of Natural History*, 48.1 (New York, 1961), 89.

represents a movement of tribes from northern Baluchistan early in the second millennium B.C. The survey also showed the occurrence of both Nal- and Quetta-ware on sites extending south from Mungachar to Kalat town. Since the Surab excavations established the partial contemporaneity of these cultures, this suggests either a zone of cultural coexistence or a period of wavering fortune in which the border villages were occupied first by one cultural group and then by the other.

A comprehensive survey of the Surab-Gidar valley yielded fourteen new sites. This relatively fertile area between the Panjgur and Khuzdar roads was as extensively settled in prehistoric times as now. One site had evidently been abandoned before Nal times but two large and seven small mounds showed occupation throughout the Surab sequence. Londo and Islamic sites often represented new settlements, only four out of eight being built upon earlier foundations, with a single large urban centre (No. 26) in medieval times.

Exploration in the Ornach valley on the borders of Jhalawan and Las Bela resulted in important discoveries. The region was visited at the suggestion of Mr. R. L. Raikes who had found Harappan material at Kinneru, a site to the east of the valley. Thanks to the collaboration of Sirdar Alem Khan of the Bizanjau, rapid reconnaissance produced eight sites, of which three, Nindo-damb (or Mindowain), Kinneru, and Phusi (Fig. 1, Nos. 47, 48, and 54), were of special interest. These settlements differed architecturally from the majority of sites in Kalat, being built of heavy stone masonry with little trace of mud-brick, and showing signs in each case of a higher central mound—perhaps a citadel. They appear to be related to the sites subsequently discovered at Edith Shahr (Complex A) in the Porali valley north of Bela.[1] The surface-pottery (Fig. 2) fell into three groups: Baluchi wares comprising the Surab assortment and Kulli-ware; Harappan pottery, including incised offering-stands and perforated vessels; and wares similar to Harappan but not present on Indus valley sites. It was clear from even limited trenching that the main occupation at Nindo-damb, the largest of the settlements, had been Harappan, with the addition of non-Indus elements. Similar pottery was collected at Kinneru, where a polished stone weight with exact parallels from Mohenjo-daro[2] had been preserved in the modern village which occupies part of the site.

It would be unwise on the evidence available to attempt either to relate the Ornach material to a particular stage of the Harappan culture or to regard it as a phase comparable to the sub-Indus culture now recognized in Saurashtra. Certain differences between the Ornach and Indus assemblages may, however, be noted. There were, for instance, none of the goblets with pointed base or the fine, unsurfaced, pink wheel-turned ware common at Mohenjo-daro. Nor did search produce a single example of the shell or clay bangles common on Indus sites. Figurines were plentiful, but none were

1. Walter A. Fairservis, Jr., 'Possible light on the Indus civilisation', *Illustrated London News*, 6369, CCXXXIX (26.8.61), 324–327.

2. E. J. H. Mackay, *Further Excavations at Mohenjo-daro*, II (Delhi, 1938), Pl. CVI, 54, from the upper levels.

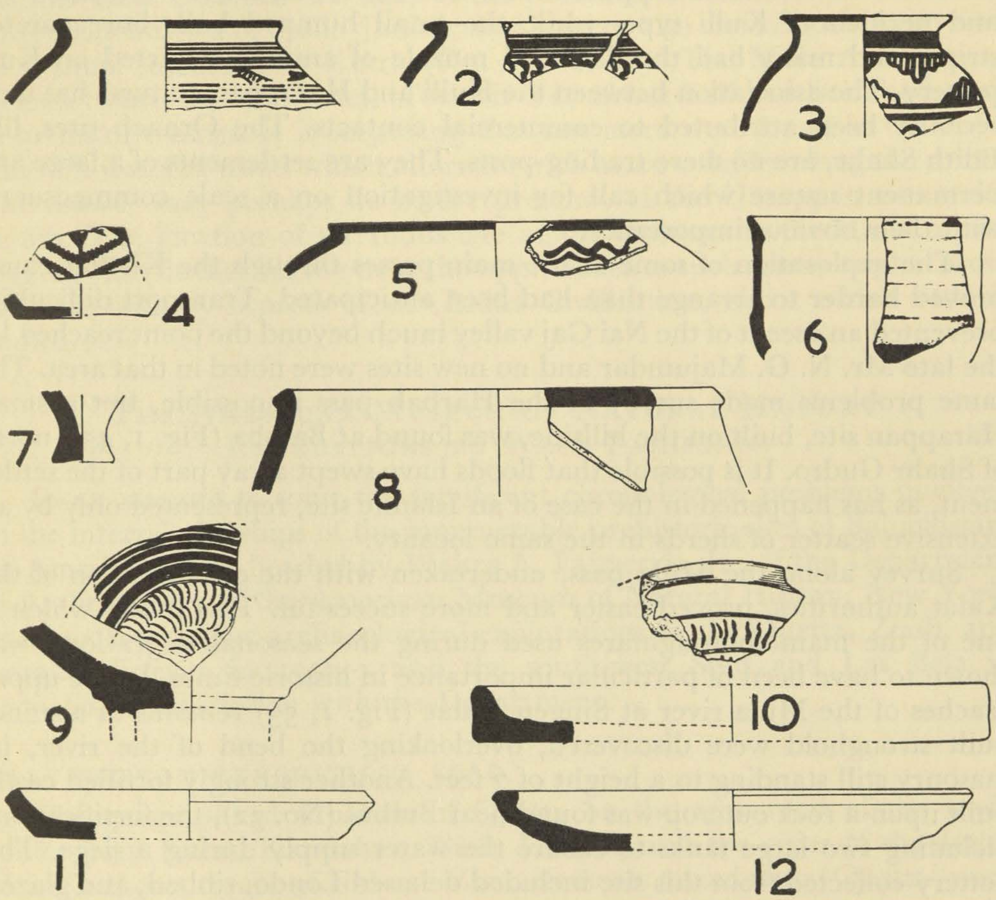


FIG. 2. Pottery from Nindo-damb and Kinneru, Ornach: Kulli-ware (1–5, 7); Harappa (6, 8–12, 20) and non-Indus ware

characteristic of the Harappa culture. The female figurines wore hair-styles and necklets of Kulli type, while the small humped bulls bore painted stripes and many had the flattened muzzle of animals depicted on Kulli pottery. The association between the Kulli and Harappan cultures has until recently been attributed to commercial contacts. The Ornach sites, like Edith Shahr, are no mere trading-posts. They are settlements of a large and permanent nature which call for investigation on a scale commensurate with their obvious importance.

The exploration of some of the main passes through the Kirthar range proved harder to arrange than had been anticipated. Transport difficulties prevented an ascent of the Nai Gaj valley much beyond the point reached by the late Mr. N. G. Majumdar and no new sites were noted in that area. The same problems made survey of the Harbab pass impossible, but a small Harappan site, built on the hillside, was found at Bamba (Fig. 1, 45), north of Shahr Gudro. It is possible that floods have swept away part of the settlement, as has happened in the case of an Islamic site, represented only by an extensive scatter of sherds in the same locality.

Survey along the Mula pass, undertaken with the collaboration of the Kalat authorities, proved easier and more successful. This route, which is one of the main thoroughfares used during the seasonal migrations, was shown to have been of particular importance in historic times. In the upper reaches of the Mula river at Singen Kalat (Fig. 1, 33) remains of a stone-built stronghold were discovered, overlooking the bend of the river, its masonry still standing to a height of 7 feet. Another strongly fortified castle built upon a rock outcrop was found near Bulbul (No. 32), the fortifications including two large tanks to ensure the water supply during a siege. The pottery collected from this site included debased Londo, ribbed, and glazed wares. Three other small forts were found above the entrance to the pass near Kuhan (Fig. 1, 37–39).

Some evidence of prehistoric occupation was also found at Singen Kalat, but greater interest attaches to the discovery of two sites at and north-east of Jahan (Fig. 1, 35–36) midway down the Mula pass. Site No. 36 represents a fairly extensive settlement lying on the river terrace above the present track through the valley and extending to the foot of the hills. Traces of stone masonry, first noted in section in the cliff-face, lay in all directions and search revealed Togau, Nal, and Quetta Wet wares, together with Harappan pottery. A similar assortment was found on the small site near the modern village.

Guarding the approaches to the mouth of the pass lay a large Harappan town. Two smaller sites of later date, share with it the name of Pathani-damb (Nos. 41–43) from their proximity to Goth Pathan, 7 miles south of Gandava. Pathani-damb I consists of a series of contiguous ridges and hillocks covering a vast area and including a higher central mound. The quantity of sherds and burnt brick entirely covering the surface of the site was exceptional and its location suggests that this town may rank with Mohenjo-daro and Harappa as a metropolitan centre of importance in the civilization of the Indus valley. It has the additional interest of providing

the first clear evidence (Pl. III) of the presence of Damb Sadaat III folk on the Kachhi plain. Some Jhukar sherds were also noted both there and on a small mound near Kotra (Fig. 1, No. 40). The Mula river survey yielded twenty-two new sites, of which only about half had been occupied in prehistoric times. It is surprising that not more were found in the open and well-watered tracts which alternate with narrow defiles along the route. The answer may perhaps lie in the presence of the Harappan site at its mouth. The location of an Indus site at the entrance to the Harbab pass suggests that further survey near the approaches to such routes might throw light on military aspects of the Indus Civilization, about which little is known.

The American Museum of Natural History Expeditions to West Pakistan

In an attempt to solve the significant chronological problems involved in the interrelationships of the innumerable prehistoric sites of Baluchistan, an American team headed by Walter A. Fairservis, Jr., of the Department of Anthropology of the American Museum of Natural History, New York, undertook extensive archaeological explorations in the Quetta, Zhob, and Loralai districts in 1950–1 and the south-west Sind and Las Bela in 1959–60, in association with the Department.

BALUCHISTAN EXPEDITION: 1950

The geographical situation of Quetta on the cross-road of the trade routes from Kalat, Kandahar, Zhob, Loralai, and the cities of the Indus plain, and occurrence of Nal and Zhob elements mixed with 'Quetta' ware on the prehistoric mounds, emphasized the archaeological importance of the Quetta valley. This area was therefore selected for thorough investigation by the exploration party which included two members of the Department of Archaeology. Prior to this survey only six prehistoric sites were known to exist in the valley. During the survey thirteen more chalcolithic sites and seventeen other sites of major and minor importance came to light. The surface finds from these sites have enabled us to gain a broad picture of their cultural contents, particularly of plain and decorated pottery of the Quetta valley and to place them in their correct chronological context in the light of stratigraphical details known from the vertical diggings at important sites.

A small portion of the prehistoric mound of Kile Gul Mohammad was examined by means of a deep sondage to get an approximation of the cultural sequences of the site. Of the results achieved, the most important was the discovery of a pre-pottery horizon in the earliest levels above the virgin soil, which was characterized by a total absence of pottery and presence of flint-flakes, polyhedral cores, grinding stones, and abundance of bones of sheep, goats, and cattle associated with traces of pisé walls.

The KGM I horizon is represented by some fourteen phases of occupation suggesting a period of some duration. A radio-carbon dating of *c.*

3200 B.C. has been obtained for the latest phases of KGM I. The evidence indicates that the people of KGM I lived in small villages and besides animal husbandry carried on a limited agriculture.

The succeeding horizon is that of KGM II which is characterized by a crude handmade pottery, frequently basket-impressed and occasionally coarsely painted. However, the cultural character of KGM II on the present evidence is in no wise changed from that of the earlier horizons.

KGM III evidences the first precise analogues with the chalcolithic culture now known in Iran. This evidence is in the form of a pottery type apparently comparable to the well-known Togau-ware previously identified by Miss Beatrice de Cardi for Kalat. This is a fine-textured wheel-made ware painted with simple geometric patterns in black over a red slip. The type both by decoration and form is comparable to certain of the Chashmi-Ali painted wares of northern Iran. The Chashmi-Ali assemblages have been dated to at least the middle of the fourth millennium B.C. The late appearance of their apparent equivalents in northern Baluchistan (at least early third millennium B.C.) suggests a cultural lag of considerable scale in the diffusion of the advances of settled life from west to east.

The uppermost levels of Kile Gul Mohammad (KGM IV) represent the Kechi Beg assemblage which is best represented at the type-site.

Limited excavations were undertaken at the sites of Kechi Beg and at the so-called Karez site. At the former were revealed two phases of what has been called the Kechi Beg culture. This is identical to that found in KGM IV. It appears that the people of this culture utilized stone in the form of boulders laid in tiers as the foundation for their mud-brick walls. They also made a fine decorated pottery with wide bands and motifs like sigmas, hachures and cross-hatchings between the bands painted in black and occasionally red on buff slip. A significant pottery type is a white on black decorated ware represented generally by open bowls. This type has already been identified at Nal by Hargreaves, so that its appearance in the Quetta valley is a phenomenon of no little significance. Indeed, the Kechi Beg polychromes and black on buff wares have a clear affinity to the decorated wares found by Majumdar in pre-Harappan context at Ghazi Shah, Amri, etc., and more recently by M. Casal at Amri. The Kechi Beg period is represented in the Quetta valley by at least twenty sites.

The excavations at the Karez site revealed a phase of the classic Quetta culture first identified by Stuart Piggott. The site of Damb Sadaat (Mian Ghundai) however, was the scene of the most extensive excavations undertaken by the expedition. In two places on the cuttings, soundings were made to virgin soil. These revealed that the Kechi Beg horizon was the earliest on the site, (DS I). In turn these horizons were succeeded by phases of the Quetta culture (DS II).

The Quetta culture represents what can be regarded as a somewhat complex farming settlement. Villages were as numerous as those of Kechi Beg and from all indications larger in size. The excavations revealed mud-brick houses with small square rooms each with its firepit. The whole connected by a winding alleyway. Bangles, model houses, human female

and bull figurines, rattles, seals of clay, bone needles, awls, spatulas, and stone grinding and polishing implements were found in this context. Most remarkable however was the elaborate pottery, principally black on buff, decorated with an extraordinary repertoire of geometric, flora, and animal designs and motifs (Pl. IV, A). It is of interest that among these designs are depictions of humped bovines, fish, and pipal leaves, features characteristic of the sub-continent.

The final phases of occupation at the site of Damb Sadaat (DS III) were revealed principally by the work of Leslie Alcock, who was the Pakistan representative to the expedition. Alcock uncovered a large mud-brick platform on the highest part of the site. This was surrounded apparently by a walled compound. The platform was pierced with two stone drains and in one corner at its foundations a disarticulated human skull was found in a stone-lined cache. Associated with this building complex was a clay goggle-eyed pedestal human female figurine known elsewhere as the 'Zhob' goddess, and a number of painted clay bull figurines. The implication of this evidence would seem to be that the last prehistoric phases at the site and apparently at the valley were marked by an emphasis upon a ceremonialism possibly involved with fertility invocation. It is in these phases that the only evidence for contact with the Harappan Civilization was uncovered.

The Quetta valley excavations provide a broad outline of the various phases of late prehistoric occupation of the valley. The evidence is important in its furnishing of typological ties to other areas of the Indo-Iranian Borderlands with all that that means in terms of chronological and cultural parity. Two major facets stand out: (1) Within the limitation of the excavations carried out there was no evidence of a cultural break or gap. On the contrary, everything points to a gradual evolution from primitive beginnings to an elaborate complexity of village life. (2) In the early cultural horizons the typological ties to Iran appear very strong. In the later periods, though the ties remain, it is apparent that not only an indigenous character develops but that there are influences from cultures subcontinent in character. Thus a process of Indianization can be said to be in effect whose details are still to be determined.

In order to complement the evidence already gathered, the Expedition also surveyed the Zhob and Loralai districts. The survey, though partly duplicating Stein's reconnaissances of 1927, produced additional archaeological evidences. The penetration of Harappan influence in Loralai emphasizes its importance in relation to the several prehistoric Baluchi cultures. Thirteen sites were examined, which include the well-known sites of Sur Jangal, Dabarkot, Duki, and Rana Ghundai. At Sur Jangal, investigations revealed twelve successive phases of settlement in the history of the site, among which the material excavated by Stein represented the last two phases of its occupation. The site appears to have remained under continuous occupation—a fact confirmed by the considerable overlapping of pottery types. Goat and sheep herding was a principal factor in the economy of the early horizons (SJ I and SJ II) but in the last period (SJ III) cattle-raising appears to have been dominant. These cattle-raisers abandoned

the site as a result of perhaps a crop- or water-failure, as no signs of destruction or total conflagration were traceable. The collection of ceramics from the stratified context at Rana Ghundai amplified the typological evidence, which helps to correlate the 'Ross sequence' of culture with that from Sur Jangal. It showed how after an overlap between the phases I (a) and I (c), Sur Jangal was abandoned in RG III period, and there were no equivalents for RG IV and V phases. The investigations have divided RG IV into three phases, viz., Harappan, Jhukar and post-Jhukar. It has been suggested that the Jhukar people occupied Rana Ghundai after ousting the Harappans. At the huge site of Dabarkot the Harappan occupation was traceable under the topmost levels which were themselves of Buddhist origin. A study of comparable material indicated that the site was occupied as early as the time of RG I and Sur Jangal I phases. In short, the examination of these major sites enabled the explorers to determine the relative chronological scheme on the basis of typological comparisons in which other sites of Loralai could be placed.

Among the outstanding sites in Zhob, that of Periano-Ghundai claims considerable importance since it remained under occupation from the prehistoric to the Sassanian periods. In the light of recent researches Stein's discoveries of 1929 fall into two distinct stratigraphical phases of the latest prehistoric occupation. The most recent is the Incinerary Pot Burial phase, which is characterized by the burials of disarticulated human bones and ashes in rough vessels placed under the floors of houses. It is considered to be post-RG III c, but not as late as RG IV. The Zhob cult phase, characterized by the female figurines called Zhob goddesses is assignable to Sur Jangal III and RG III. The sites of Mughal-Ghundai and that of Kaudani were also investigated and their cultural aspects were correlated.

LAS BELA AND SOUTH-WEST SIND EXPEDITION: 1959–60

Reconnaissance of the areas of the Malir, Hab, and Porali river drainages revealed Harappan sites existed close to the Arabian Sea coast and those of the Kulli culture were inland except in the Indus valley itself. In the Upper Hab river valley a remarkable site was discovered. This had well preserved surface remains in the form of cut-stone buildings whose plans could be traced with no little clarity. Associated with the site was a nearby dam made of the same stone blocks as the buildings. The evidence indicates that the dam was erected as a reservoir dam to contain the run-off of surrounding slopes and thus enable the villagers to irrigate the alluvial plain above the bluffs of the Hab river itself. The ceramic evidence indicates that the site was occupied in pre-Harappan times.

A Harappan village in the Malir river drainage only 25 miles from Karachi appears to have depended on a kach dam system much as in the modern situation. Traces of an ancient dam in proximity to the site more than suggest this possibility.

The major emphasis of the fieldwork was in northern Las Bela in Welpat tahsil. Here Sir Aurel Stein had already made a brief reconnaissance (1943)

and had encountered several prehistoric sites at one of which (Niai Buthi) he had briefly excavated. The American Museum Expedition re-examined this site and because of the presence of exposed layers of occupation was able to determine two major phases of occupation in the upper portions of the site. These portions were of the so-called Kulli culture—a culture well known at a number of sites in southern Kalat and eastern Makran. The early Kulli phase resembles the Quetta culture in many respects, the differences being largely in the presence and absence of certain characteristic ceramic forms and decorative elements. Nal designs on pottery also appear in early Kulli context. The late Kulli phase however, has very strong Harappan ties. A number of black-on-red wares appear to be Harappan in form but Kulli in characteristic decoration. Clearly Harappan are fruit stands, toy carts, graters, terracotta 'cakes', and the like.

About 10 miles north of Bela Town north of the Welpat plain and on either side of the Porali river valley is the remarkable site complex of Edith Shahr. This complex is expressed as a series of almost contiguous stone ruins running north for at least 8 miles. These ruins are the remnants of ancient structures that were made by tiering boulders. The structures and associated artefacts fall into two basic divisions or complexes: Complex A and Complex B.

Complex A: A series of rectangular structures (foundation for mud-brick houses?) set in regular order in the same orientation and separated by narrow lanes. These occur in the vicinity of large piles of boulders which are from all evidence the remains of terraced platforms on which were brick buildings. In some of these, remnants of pits at the top suggest ritual buildings of the kind known in the Quetta valley at Damb Sadaat and in Afghanistan at Mundigak. The artefactual evidence indicates that these structures probably all belong to the late Kulli culture and are thus contemporary with the Harappan Civilization.

Complex B (Pl. IV, B): A series of stone circles and long rectangular box-like structures of various kinds usually in close proximity to structures of Complex A, but generally in a more dominant position in the slopes of the surrounding hills. The ceramics associated with Complex B structures are coarse and thick, frequently decorated with appliqué bands. In many sites of Kalat this ware is found with Londo ware which Beatrice de Cardi associates eventually with Iranian cultures of post-1100 B.C. time. Evidence for a conflagration here and there on sites of Complex B, and the close proximity of the two complexes may indicate that the people of Complex B were invaders who overwhelmed the Kulli people as a part of that tribal movement out of inner Asia which played a role in the eventual eclipse of the Harappan Civilization.

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The Peabody Museum Expedition to West Pakistan, 1955

In 1955 Dr. Henry Field led an expedition on behalf of the Peabody Museum of Harvard University, U.S.A., to the Baluchistan and Bahawalpur regions in collaboration with the Department of Archaeology. The principal objective of Dr. Field's exploration was to search for traces of Stone-Age cultures, to record anthropometric and ethnological data, and to establish their relationship with those of south-western Asia and India.

During the course of these reconnaissances, the expedition traversed the Kej valley and central Makran in Baluchistan and Cholistan desert in the Bahawalpur Division of West Pakistan, where, in addition to collecting anthropometric and ethnological data, it visited twenty-three sites in Baluchistan and eleven sites in Bahawalpur. A large quantity of surface pottery and flint implements was collected from these sites and has been studied by the Exploration Branch.

The pottery from some of the Baluchistan sites resembles that from Shahi Tump, Kulli, and certain sites in Iran. The collection from the Bahawalpur sites shows affinities with the black-on-red painted ware of the Indus Civilization. The collection from Baluchistan also contains some glazed sherds of Islamic period.

BALUCHISTAN SITES

Geographically, the Baluchistan borderland is an eastern extension of the Iranian plateau. It is therefore natural to find close parallels to Baluchi cultures in those of the early sites of south-eastern Iran. The characteristics of Kulli painted ware, such as designs of humped bulls, tiny horned goats, and plants with broad leaves, occur in the painted pottery, both red and buff, of early sites of the Bampur valley of south-east Iran. The technique seems to have originated in Sialk III, 5 and Hissar I, c, and to have developed at Nineveh during the Jemdet Nasr period. These influences must have travelled subsequently from Kirman to Seistan and through Makran to the Indus valley along one of the most ancient trade routes. Noteworthy parallels to the Shahi Tump pottery are found in the painted pottery of Susa A, while some Shahi Tump forms closely resemble those of the Iranian pottery from Khurab, which is contemporary with Kulli.

The collection of pottery from the twenty-three sites in Baluchistan fall into two main cultural groups: (1) Shahi Tump, and (2) Kulli-Mehi. The main characteristic of the Shahi Tump group is its uniformity in respect of paste, technique, shape, and ornamentation. It is a pale red or grey pottery with thin, fragile, and imperfect fabric. The patterns, all geometric, are limited in range; and the forms are also limited to a few particular shapes. The paint used varies from black through sepia to a reddish brown. A characteristic feature of the decoration is the soft and blurred edge of its

outline. The interior decoration, where this occurs, consists of quatrefoil designs.

The Kulli-Mehi group is divided into two distinct types based on the style of decoration: (1) purely geometric designs, and (2) geometric designs combined with stylized animals and plant forms. It seems quite evident that the second type of this group developed out of the first, which is comparable to some extent to certain Amri types, while the animal motifs of the second group are comparable to Nal types. Its plant motifs, particularly the 'pipal' leaves, have resemblance to those of the Harappan culture. The Kulli-Mehi pottery is characterized by the fine quality of its painted vessels. The designs are executed in black over a pinkish or buff ground, though occasionally a dark red colour is also used for horizontal bands dividing the zones of decoration. Of the animal motifs, the humped bull is portrayed with an elongated body, and long, curved horns, powerful muzzle, and large round eyes, in a naturalistic style. The small-horned goats on the contrary show a stylized form. The use of secondary red colour in bands and the style of painting the eyes of the bull recall the decorative style of Scarlet ware of Mesopotamia and Susa D.

The Baluchistan sites visited by the Expedition were: (1) Shahi Tump, (2) Tump, (3) Fort Miri, (4) Nodiz, (5) Kalat-Damb, (6) Nazrabad, (7) Nasirabad, (8) Thale-Damb (Hoshab Mound-A), (9) Thale-Damb (Hoshab Mound-B), (10) Surain-Damb, (11) Kohna-Kalat, (12) Besham-Damb, (13) Sraduk, (14) Damb-i-Dambi, (15) Chiri-Damb, (16) Sari-Damb, (17) Zayak, (18) Jangal, (19) Shakar-Khwan-Damb, (20) Ander-Damb, (21) Ghuram (Benn Chah), (22) Kapoto, (23) Kapoto Rock Shelter.

BAHAWALPUR SITES

The expedition also surveyed the areas in the Cholistan desert along the dry bed of Haqra or Gaggar river. The adjoining area of the Indian states of Bikanir and Jaisalmer on the bank of the same river has been explored by the Indian Archaeological Department. It produced material of the Chalcolithic period from several mounds, thus extending our knowledge of the Indus people and their country between the two capitals at Harappa and Mohenjo-daro. Earlier in 1942, Stein located thirteen sites but unfortunately he died before his Report could be published. Dr. Field and his party in a short survey of two weeks in this important area achieved excellent results. Of the eleven sites visited by the expedition, seven were so far unrecorded. All of them are chalcolithic sites, and the collected pottery and other objects are mostly analogous with the materials of Harappa-Mohenjo-daro but also include sherds of the Harappan 'Cemetery H' type. In one site, that is Bhoot, the surface collection includes some sherds which show a close resemblance to typical Kot Diji pottery with broad neck bands. The common forms of Bahawalpur pottery include storage jars, offering-stands, goblets, beakers, narrow mouthed bowls, dishes, basins, pans, jar-covers, perforated ware, handled cups, and saucers. The designs in black-on-red executed in zones, panels, and on the whole body of the pot consist of

geometric devices and stylized human, animal, and bird forms, and vegetation. The detailed report of the survey has been published by the Peabody Museum in Henry Field's *An Anthropological Reconnaissance in West Pakistan* 1955.

The sites visited by the expedition in the Cholistan desert are: (1) Kudwala, (2) Fort Mojgarh, (3) Fort Marot, (4) Lurewala, (5) Dunkkian, (6) Fort Derawar, (7) Qaimpur, (8) Turewala, (9) Sulla, (10) Traikoa-Thar, (11) Bhoot.

The University Museum of Pennsylvania Expedition to Makran

In 1960, an Archaeological Mission sponsored by the University Museum of Pennsylvania, Philadelphia, and headed by Dr. George F. Dales, explored the southern coastal areas of West Pakistan in conjunction with the Department of Archaeology, Pakistan. The main objective was to trace the ancient sea-route between the Indus valley and the West, which on the basis of evidence from Mesopotamia and the Persian Gulf, is thought to have existed in the second half of the third millennium. Sumerian cuneiform tablets of economic and mythological nature refer to various distant lands, one of which is probably the Indus and Baluchistan area. The Joint Expedition searched the Makran coast from Ras Malan to Jiwani and was thus able to collect archaeological evidence and record geographical features of the region.

At the first stage of the operations, the well-known Harappan outpost of Sutkagen-Dor, on the bank of the Dasht river, was examined and produced additional evidence of significance. An exploratory trench inside the large 'depression' enclosed by the fortification wall revealed three building phases of the Harappan period of occupation. The earliest phase was characterized by a stone structure, to which the solidly built fortification is also assigned. The second phase was marked by a floor of earth built on thick stone filling. The third habitational phase was represented by regular structural remains of semi-dressed stones. The trench which struck bedrock at a depth of 12 feet brought to light the inner face of the defence wall with a 7½-feet-wide mud-brick platform of equal height built against it. All three phases are stratigraphically associated with the fortification wall. The occupation was continuous and purely Harappan in character, and the material contents from each level show little change or influence from Baluchistan. Long after the abandonment of the site by the Harappans, it was reoccupied in late historical times. This occupation is characterized by poorly constructed stone walls at various places on the site.

The site appears to have been visited frequently by floods as revealed by a trench dug on a small mound outside the citadel, which showed numerous deposits of silt down to 15 feet. Survey of the surrounding areas resulted in the discovery of another small Harappan site, situated about half a mile west of Sutkagen-Dor in between the low hills and close to the Dasht river.

An intensive search along the coast from Gwatar bay to Ras Ganz failed to produce the remains of any settlement with which the burial cairns at Lak plateau, Jiwani, could be associated. Stein opened a great number of crudely built cairns which are mostly circular in shape. Specimens of plain and painted pottery having voluted designs in black between alternating red and black bands on whitish slip were collected. The dating of this material is still undetermined but it certainly belongs to the Iron Age.

On the Gwadòr and Ormara heads, fragmentary stone circles were discovered but devoid of any contents. The relationship between these circles and those of Lak plateau is yet to be determined. Apart from re-examination of the Portuguese dam on Gwadòr head, remains of impressive defence walls of stone were discovered on the northern promontory which commands a fine view of Gwadòr East and West bays. These fortification walls may be attributed to the Portuguese also, built in the sixteenth century.

The Haptalar Island situated 26 miles south-east of Pasni and recorded as Nasala by Arrian or Astola by the Arabs, was also investigated. There, the remains of a small rectangular shrine and a tank are extant at present. The place was believed to be the abode of Kali Devi by the Hindus.

The most important discovery was the remains of a mature Harappan settlement called Sotka-Koh—'burnt hill'—situated 9 miles north of Pasni on the bank of the Shadi Kaur. Its situation in the foothills of the Talor range on an alluvial plain, and on the bank of the river, strikingly resembles the site of Sutkagen-Dor. During the time of its occupation by the Harappan people using their well-developed and characteristic ceramics, it must have been nearer the coast and more easily accessible than it is at present. The original coastline has been changed as a result of great geological changes.

These Harappan sites dotted along the Makran coast at Sutkagen-Dor, Sotka-Koh, and that of Bala-Kot near Sonmiani bay, recently reported to the Department by Mr. R. L. Raikes, served as outposts guarding and supplying the vessels sailing along the coast. The recent exploration has therefore provided evidence in support of the sea-route which existed in the Harappan times between the East and West. Incidentally, the discovery of a dockyard at the Harappan site of Lothal (India) may be mentioned as providing additional confirmation of the results.

Preliminary accounts of the expedition have been contributed by Dr. Dales to *Antiquity*, XXXVI, No. 142 (Cambridge, England, June 1962) and to *Expedition* (University Museum, Philadelphia, Winter 1961).

III

EXCAVATIONS

(a) DEPARTMENTAL EXCAVATIONS

DURING the last 15 years the Department of Archaeology in Pakistan has undertaken large-scale excavations at a number of sites ranging in date from the prehistoric to the Islamic periods, in order to unravel the material remains of our ancient cultures and to fill the gaps in our history and chronology. Some of these excavations are still in progress. Digging operations at Mohenjo-daro under the direction of Sir Mortimer Wheeler, and at Kot Diji, Mainamati, Lahore, and Banbhore by the Department have filled up not only gaps in our history but also added substantially to our knowledge of art, architecture, and culture of ancient Pakistan. A survey of the results achieved in these excavations is given below.

(i) EXCAVATIONS AT MOHENJO-DARO, 1950

The discovery of a strongly fortified citadel at Harappa in 1946 entirely changed the concept of the peaceful character of the Indus Civilization, and called for a similar re-examination of the city-plan of Mohenjo-daro, the other of the twin capitals of that remarkable civilization. Another outstanding problem was that of the origin and early growth of the Indus Civilization. It was to examine these two important questions that excavations were undertaken at Mohenjo-daro in 1950 under the direction of Sir Mortimer Wheeler, then Archaeological Adviser to the Government of Pakistan. The operations were carried out on the western fringe of the high mound which had obviously been the equivalent of the Harappa citadel, with a supplementary excavation at the south-eastern corner of the mound.

Work at the south-eastern corner revealed an assemblage of solid blocks of brickwork still rising to 10 feet above the surrounding level and constituting the remains of a succession of towers. These were linked and extended by a brick wall, at one point with a breast-high parapet overlooking the residential quarters of the city. The finds included large numbers of terracotta missiles on the parapet.

On the western side of the Great Bath, a large and substantial brick structure was uncovered, and identified as the Great Granary of Mohenjo-daro, equivalent to the group of granaries previously found at Harappa. It originally consisted of twenty-seven blocks of solid brickwork, divided from one another by a grid of narrow passages which ventilated the granary. The superstructure, as judged by the vertical chases in the blocks, consisted of

timber-work. The brick podium was battered externally. An alcove in the northern face of the platform with vertical face was designed to facilitate the unloading of bales of grain. In its original form the granary was proved to be earlier than the adjacent Bath, but additions were contemporary with this. To the south of the granary remains of a monumental ramp or stair were uncovered, which provided access to the level grounds around the great bath and the granary.

With a view to achieving the second objective, that is, evidences of the origin and early stages of the Indus Civilization, efforts were made to uncover the lowest levels of Mohenjo-daro, which could not be reached earlier owing to the rise of the subsoil water level at the site since prehistoric times. By the help of machine pumps, the excavators were able to reach 16 feet below the present level, and hurriedly collected whatsoever material they could before the sections of the deep trench gave in and collapsed. The objective could not thus be fully attained in the time available; it is evident that the early periods of the city extend far below the present water-table, and only a very major operation can be expected to reach them.

If, however, the excavations did not succeed in unravelling the earliest history of Mohenjo-daro, the deep digging enabled the excavators to define at least three stages in the development of the site. It was clear that the static quality of the Indus Civilization has been exaggerated, and that there was in fact a slow but definite evolutionary process. The earliest phase was represented by building remains lying underneath the south-eastern tower. To the second phase belonged the construction of the citadel buildings. There ensued a period of gradual decline during which the superstructures of the great granary collapsed and shoddy walls were built over the debris. These stages of development and decline were manifest alike in the structures, and in the pottery recovered from the successive levels (Pls. V, A and B).

(ii) Excavations at Kot Diji

The excavations at Kot Diji, a prehistoric site about 15 miles south of Khairpur town in West Pakistan, have furnished information of high significance in relation to the Indus Civilization. At this site evidences of the early stages of the Civilization came to light; and what is of greater significance is that, underneath the early Indus or Harappan levels, was found a new cultural element of pre-Harappan date, but in no way inferior to that of the Harappans. In consequence the later prehistory of West Pakistan has now been pushed back by another 500 years (Pls. VI–X, A).

The Kot Dijians, as these early settlers are now more familiarly known, possessed a developed and sophisticated culture with a superior skill in pot-making, from which the Harappans appear to have borrowed some ideas including certain ceramic motifs and the system of town-planning, and fortification. The excavations were carried out by the Exploration Branch during two short seasons in 1955 and 1956. Since a detailed report of the excavations is being published shortly, only a short summary of the results achieved is given here.

The Kot Diji site, measuring 600 feet by 400 feet, and 40 feet high from the surrounding level, consists of two parts: the high citadel mound, and the lower city extending far outside. Excavations, both vertical and horizontal, in both areas, have provided a complete cross-section of the mound from top to bottom which has established the chronological sequence and made possible the study of the art and architectural details of the occupation phases. On the citadel area, a couple of deep trenches laid across the defence wall were sunk to the bed-rock, digging through as many as twenty-nine main and subsidiary layers, including twenty-one occupation-levels associated with the different building periods of the site. The upper levels to layer (3A) represent typical and mature phases of Harappa Civilization; the remaining levels to layer (16) in the underlying 17 feet of accumulation are separated from the superimposed Harappan levels by a thick stratum of charred material; they represent the new culture of the Kot Dijians, distinguished by a hitherto unknown type of ceramic industry.

In the Harappan levels, extensive building remains with stone foundations and mud-brick superstructures, showing plans of rooms and blocks of houses separated by lanes and streets, have been unearthed. As shown by a mud impression left on the floor of a room, the roofs were made of reed mats which were plastered with mud. The characteristic Harappan materials recovered from the upper layers represent a well-developed and mature phase. It consists of the usual black-on-red pottery with familiar designs such as the pipal leaf, intersecting circle, peacock, antelope, sun-symbol, and various other geometrical and incised ornamentations. An unusual painted motif which was not observed in any other Harappan site except Chanhu-daro is the half pipal leaf.

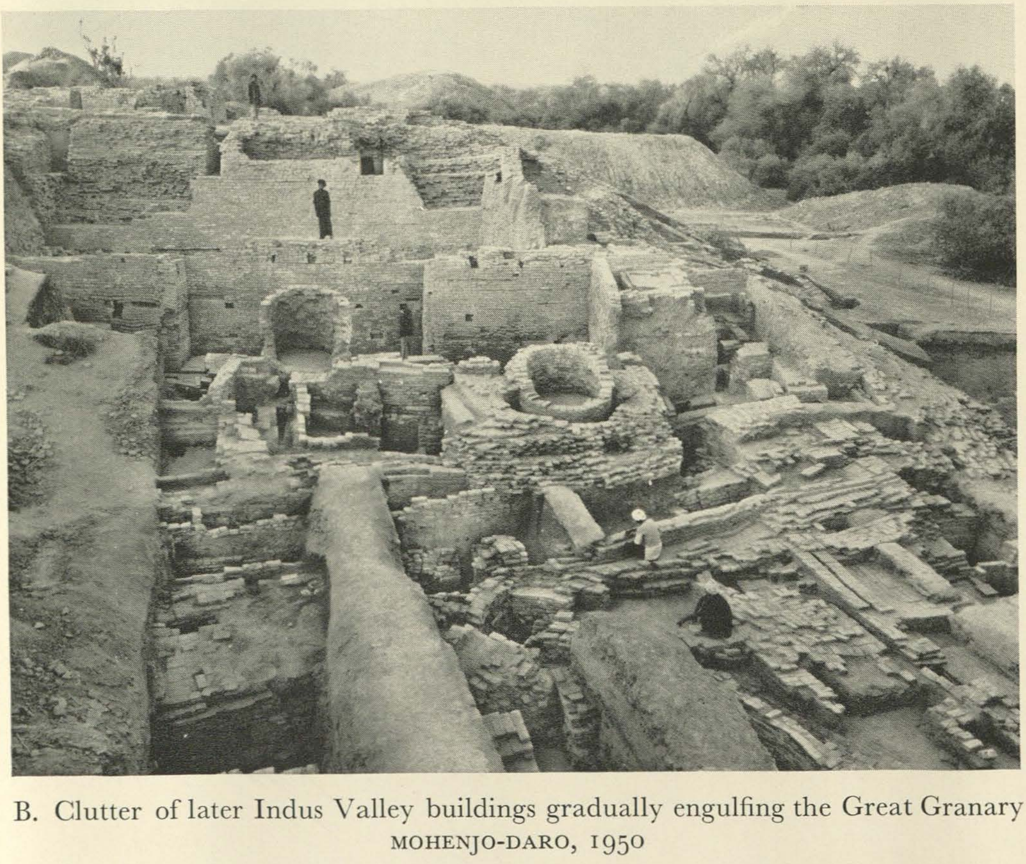
The burnt layer below (3A) coincides with a complete break in the cultural sequence. The underlying strata yielded a new type of ware, attributed to the Kot Dijian culture. A thick burnt deposit spread all over the site at this level suggests that the Kot Dijian settlement was set on fire and destroyed by the Harappans before they occupied and settled on the site.

In the well-stratified Kot Dijian layers, eleven occupation-levels were brought to light. Some signs of localized fire occur in them here and there, but as no break in the pottery-sequence is evident, these represent nothing but accidental calamities. The occupation-levels are marked by massive walls of mud or mud-bricks on stone foundations, some of them being 5 feet thick. The bricks usually measure 15 by $7\frac{1}{2}$ by $3\frac{1}{2}$ inches.

The most interesting feature of the Kot Dijian settlement is its defensive wall around the citadel area—one of the earliest known fortification walls in the subcontinent (Pl. VII, B). Its massiveness and solidity shows that it was the creation of an organized community. It was built on the bed-rock, with undressed courses of limestone blocks at the base supporting a mud-brick superstructure. Regular courses of large stone blocks set in mud mortar have been used on the northern and eastern sides. On the inner side no trace of plaster was found. At places, the outer face of the stone base is supported by a mud-brick revetment bonded with the foundation courses.



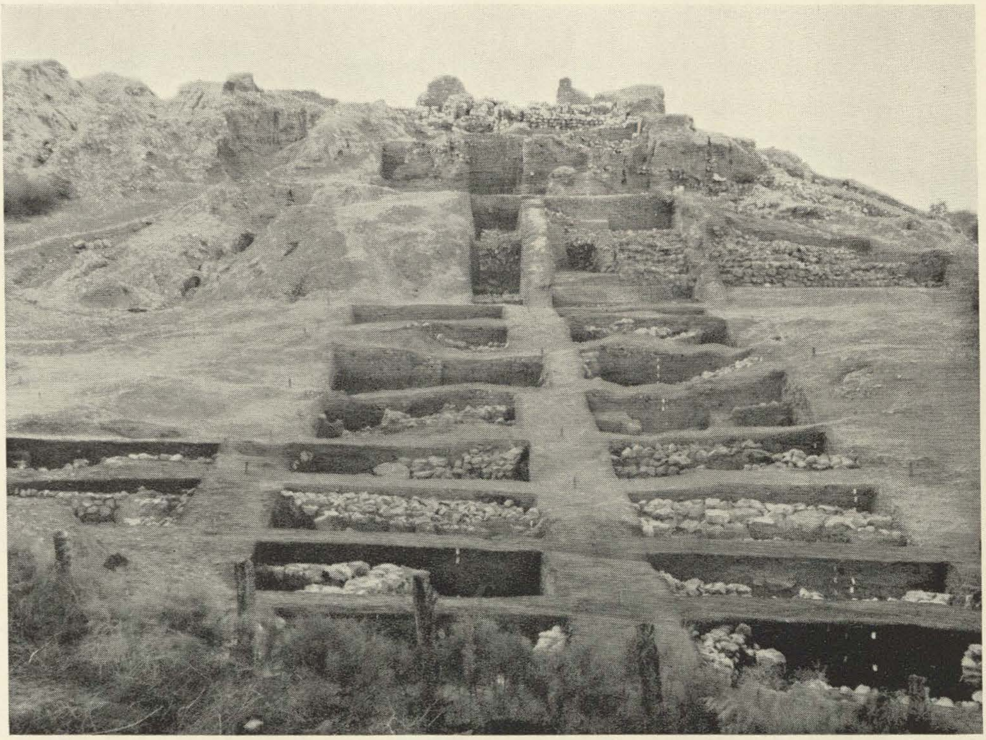
A. The loading-bay and platform of the Great Granary, on the citadel



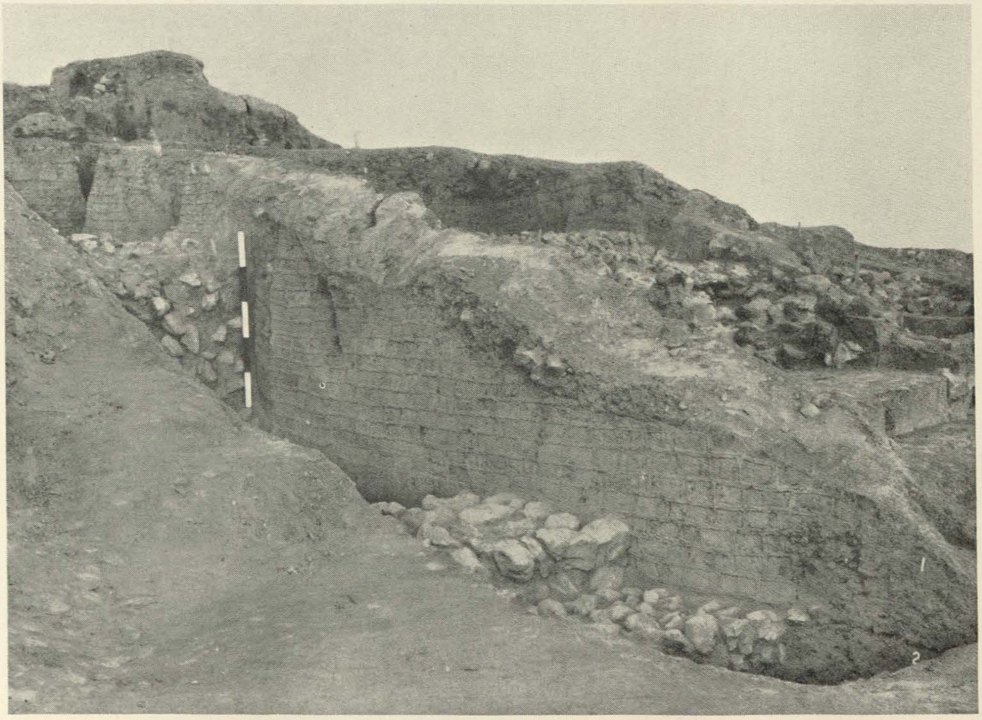
B. Clutter of later Indus Valley buildings gradually engulfing the Great Granary
MOHENJO-DARO, 1950



Kot Diji



A. Excavations in the fortified citadel (*background*) and the lower city (*foreground*)



B. Section through the fortification of the citadel, showing the stone foundations and mud-brick superstructure

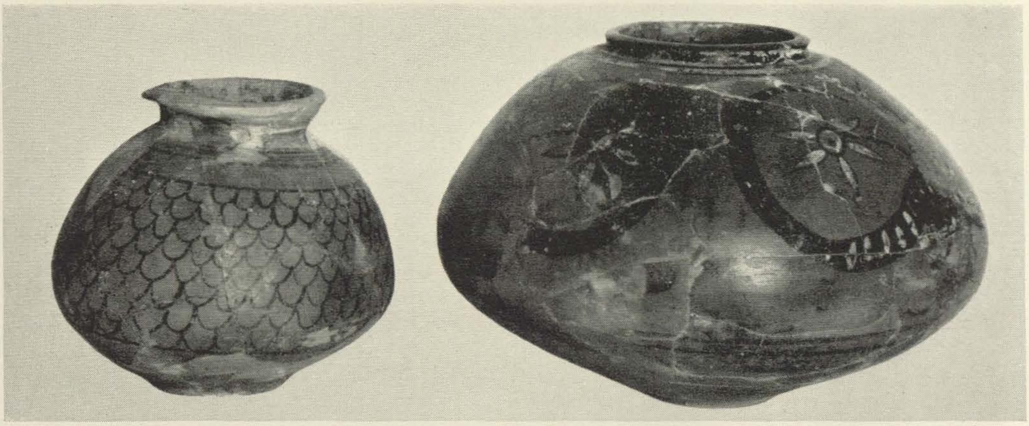
KOT DIJI



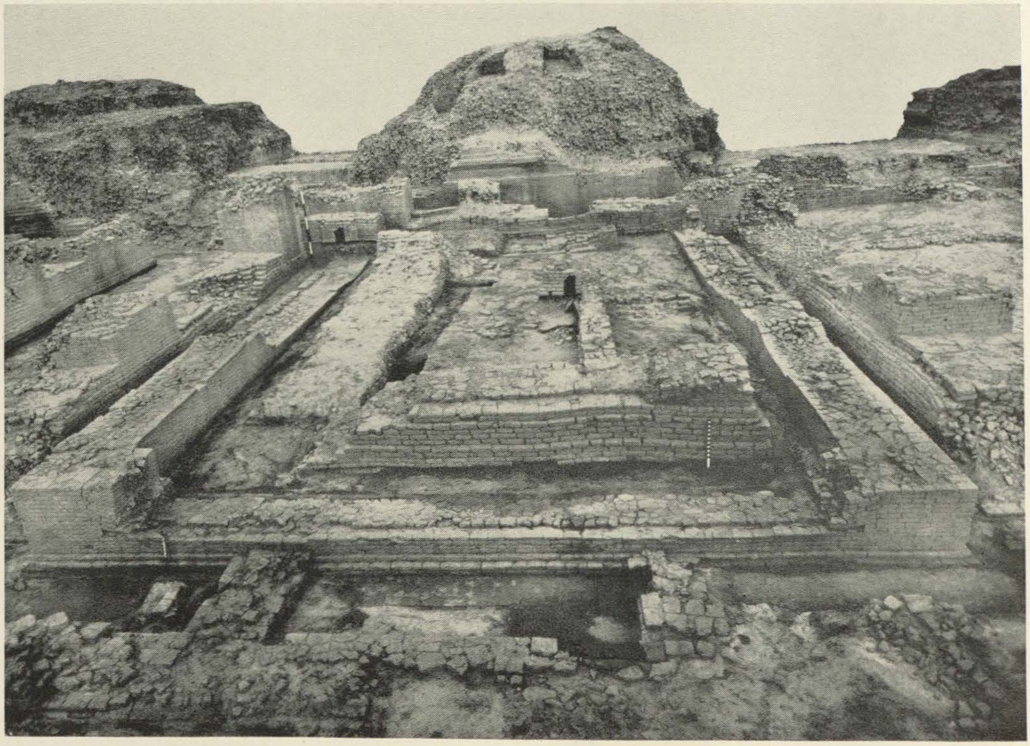
'Kot Diji' culture: banded pottery



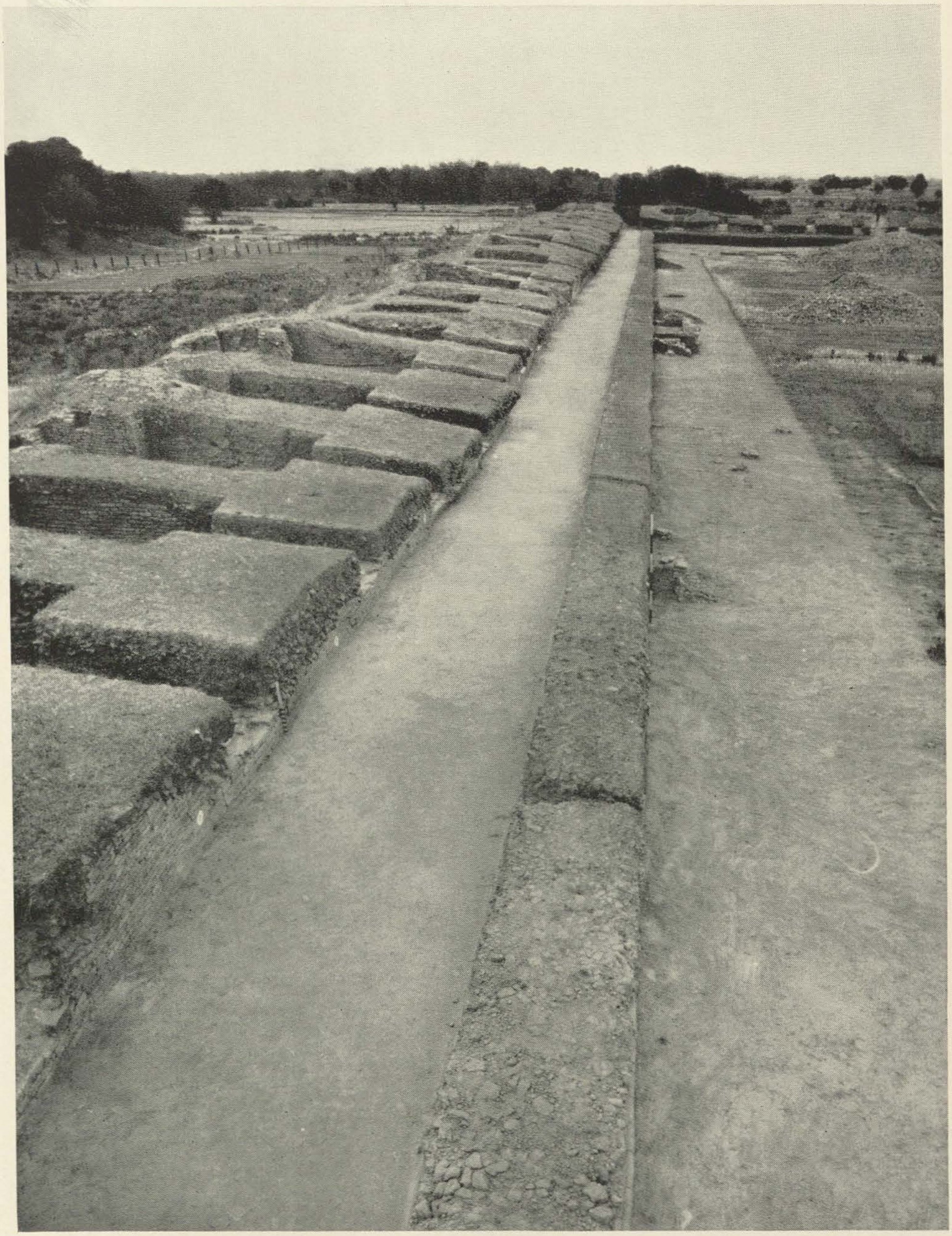
'Kot Diji' culture: painted sherds



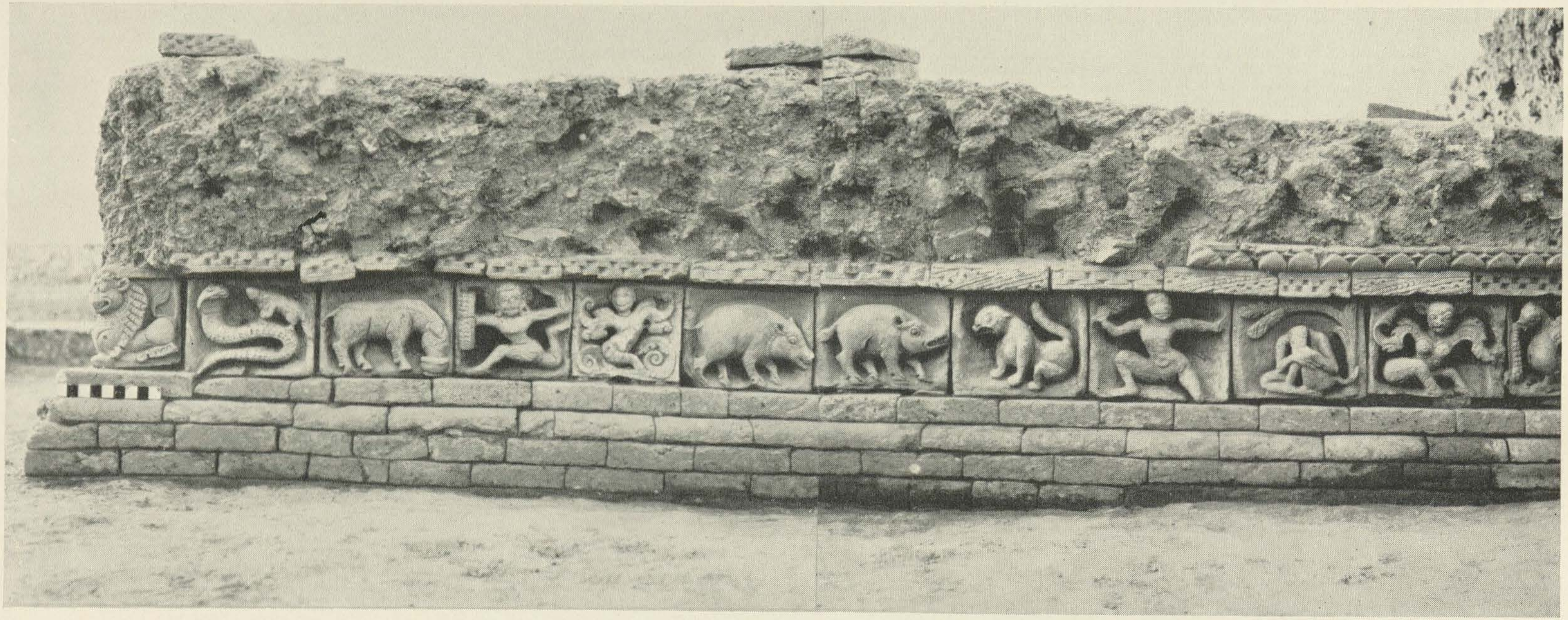
A. 'Kot Diji' culture: painted pottery



B. Mainamati: the central stupa and front hall at Kotila Mura (Buddhist monastery), East Pakistan



Mainamati: monastic cells on the eastern side of the Salban Vihara (Buddhist monastery)



Mainamati: terracotta panels and carved bricks *in situ* on the base of the central shrine at the Salban Vihara (Buddhist monastery)





Mainamati: terracotta panels from the Salban Vihara (10th century Buddhist monastery)

The wall was strengthened externally with bastions at irregular intervals, supported by a mud-brick revetment against the outer face. It is considerably thicker at the base and at present survives to a maximum height of 12 to 14 feet. On the northern side a portion of the wall, with an average height of $5\frac{1}{2}$ feet, has been uncovered for a length of about 108 feet. The residential buildings inside the citadel were very close to the defence wall which often served as the back wall of these houses. At some later stage of the Kot Dijian occupation, it fell into disrepair, and houses were built on top of it. There is no evidence to show that during the subsequent Harappan occupation it was ever used.

The pottery recovered from the Kot Dijian levels constitutes the principal element of this new culture. Its distinctive features are a fine thin body, short beaded or slightly everted rim, and a broad band round the neck in red, brown, sepia, or warm black, varying from 1 to 3 inches in width, painted on a cream or dull red slip (Pl. VIII). It is wheel-made. Its clay is well levigated, and the ground varies from pinkish to red colour. It has only occasional affinity with the normal Harappan ware either in texture, form, or decoration.

Though this pottery is recognizable by these broad features, which remained unchanged from the beginning to the end of the Kot Dijian settlement, stratigraphical studies revealed stages of development in its style of decoration and, to some extent, in its texture and form also. In the earlier stages it is distinguished by a thinner texture and a squat globular form, and its almost rimless and neckless open mouth is common. The decoration was confined almost exclusively to a characteristic neck-band. In later stages the neck and rim became gradually more developed and pronounced, while new decorative elements such as horizontal and wavy lines, single loops, roundels, and simple triangular patterns were introduced (Pl. IX). These gradually became multiple and complex, taking the shape of such well-known Harappan motifs as fish scales, intersecting circles, and linked roundels.

The painted decorations were executed with a careful, precise, and delicate hand, in sharp contrast with the conventional bold style of the Harappans. The geometric patterns and the bands are solid; hatched fillings are very rare, and there is no over-crowding of motifs. The overall impression that this ceramic industry creates is one of elegance combined with simplicity.

The principal form is a squat, globular vessel of medium size with short everted or beaded rim. Other forms include dish-on-stand, both squat and long type, thin and delicate vases, flat-based and straight-walled cylindrical vessels, bowls, shallow plates of thin grey fabric, beakers, jar-covers, and lids. This thin and light ware also stands in contrast to the Harappan thick and heavy pottery. The typical Kot Dijian rimless ware bears affinities with those recovered in 1946 from under the mud-brick defences at Harappa and also to some extent with those from the lower levels at Amri. Similarity has also been observed with certain types collected from the surface of a few prehistoric sites in Baluchistan and the Bahalwalpur regions, which need further study and examination. These parallels sufficiently indicate

that this culture was not an isolated and unrelated one; but at the present stage of our knowledge nothing more is known about its origin and distribution.

In the lower city area outside the citadel on the eastern side, where excavations were confined to a trench 160 feet by 40 feet, the vertical sequences were kept separate from those of the citadel mound due to an absence of a continuous and correlated section across the imposing fortification wall. Here the cultural accumulation is much less deep, consisting of only five main layers. A study of pottery and other objects revealed that the top layer (1) represents the cultures of both Harappans and Kot Dijians but predominantly Harappan; while layer (2), also representing mixed cultures, is predominantly Kot Dijian in character. It appears most probable that the occupation on this part of the site ended earlier, and during the course of the long settlement on the citadel mound this area was only partially, if at all, used. Furthermore, materials fallen from the top must also have been hopelessly mixed with the early elements, thus making it difficult to date these levels with reasonable certainty.

The lower levels represent the Kot Diji culture. In some of the squares, particularly on the south-eastern slope, red-slipped Harappan ware, mostly plain, with fugitive colour of slip, and with a few crudely painted simplified Harappan designs in black was recovered from the upper levels. A study of the material revealed that Harappan culture at this stage represented an early phase of that remarkable civilization, when though the normal Harappan forms were present, decoration in black-on-red remained still uncommon and the typical deep-red glossy slip had not yet developed. The complex Harappan designs were totally absent. From the lower levels a number of interesting Kot Dijian complete pots have been recovered. The designs on these pots, though different from those of the Harappans show the influence they exerted on the development of some of the typical Harappan painted motifs. One of them represents a horned deity in black and white on a dark brown glossy slip. The horns encircle six-petalled sunflowers and the eyes are indicated by black dots (Pl. X, A, right).

Minor antiquities from the upper levels, layers (1) to (3), representing the Harappa culture are abundant. They include the usual Harappan objects in terracotta, stone, shell, bone, and metal, the largest number being in terracotta and stone. The stone objects, mostly tools and implements, also include two steatite seals, one button type in compartmented technique, and the other, a damaged one, depicting a unicorn; one arrowhead, and two mace-heads; while terracotta objects include three figurines of a mother-goddess, a number of model animals and toys, and a large number of plain and painted bangles, triangular 'cakes', and beads. In shape, material, and workmanship they are identical with typical Harappan objects, and there is no new feature deserving special mention. The figurines of the mother-goddess are comparatively rare. Bronze objects include one well-preserved blade-axe, chisels, single and double bangles, and arrowheads.

In the lower levels from layer (4) down to layer (16), representing the Kot Dijian culture, there is a sharp decrease in the frequency of minor

antiquities. In comparison with the Harappan specimens, however, they show a definite superiority in shape and workmanship. Of all the minor antiquities, stone implements are the largest in number. They include long, sharp, and thin knife-blades, some with used and notched edges, and fine microblades. In the lower city area, fine leaf-shaped arrowheads have been recovered from Kot Diji levels. Terracotta objects include toys, plain and painted bangles, 'cakes', cones, and beads. A finely modelled terracotta bull figurine, very different in shape and style from those of the Harappan specimens, deserves special mention. Other antiquities are limited to a few objects of shell and bone.

The following radiocarbon dates, calculated on a half-life of 5568, have been received from Pennsylvania University:

P 195 (layer 4a, late Kot Dijian) 3925 B.P. (1975 B.C.) ± 134.
P 180 (layer 5, late Kot Dijian) 4083 B.P. (2133 B.C.) ± 137.
P 179 (layer 5) 4161 B.P. (2211 B.C.) ± 137.
P 196 (layer 14, early Kot Dijian) 4421 B.P. (2471 B.C.) ± 141.

(iii) Excavations at Naru Waro Dharo

A large rolling mound of sand measuring 2,500 by 1,500 feet, which rises about 25 feet above the surrounding level, is situated about 12 miles south-west of Khairpur town and 6 miles north of Kot Diji. Its surface is littered with potsherds and other minor objects of typical Harappan culture. It was presumed that the mound represented one of the large settlements of the Indus or Harappan Civilization. In September 1955, the Department set out to ascertain its character by limited excavation.

A number of trenches were laid in the south-eastern part of the mound where a thick accumulation of pottery on the surface suggested a sufficiently long occupation. It was however found that the top layer containing pottery on the surface was merely 6 inches in thickness, lying over a clean sandy deposit. Digging in four other trenches towards the north-west also revealed the same feature; the layer of pottery formed only the top deposit. Under the top soil two other layers were recognized: layer (2) which was composed of loose sand, being 2 feet thick and containing a few potsherds, and layer (3) composed of clean sand and clay. Another attempt was made on the south-eastern corner of the site. There, layers of fine black loam and a thick accumulation containing pottery and loose sandy layers were encountered. At places digging down to a depth of 20 feet produced nothing under the pottery-strewn surface but an accumulation of clean sand. There was no evidence of any structures; the inhabitants seem to have lived in thatched huts. The investigations showed that the mound represented a temporary occupation of the Harappan people who appear to have taken refuge on this high mound from a neighbouring settlement due to some calamity, probably floods.

The pottery collected from the top layer is characteristically Harappan in character. The painted designs include pipal leaf, intersecting circles, peacocks, and the familiar geometric patterns of black-on-red pottery of

the Harappans. The forms consist of large storage jars, fine and delicate tiny vases, cups, saucers, and dish-on-stands. Terracotta bangles, bull figurines, cones, triangular model 'cakes', toy cart-frames, chert blades and cores, shell bangles, potsherds inscribed with the Indus script, and a bronze spearhead are some of the objects among the numerous miscellaneous finds from this site.

(iv) Excavations at Mainamati

Five miles to the west of Comilla town lies a range of picturesque low hills, 11 miles long, called the Mainamati-Lalmai ridge. The flat tops and slopes of these hills are dotted with ancient remains of Buddhism, which were accidentally rediscovered during the Second World War. The Department of Archaeology undertook large-scale excavations on this ridge in three winter-seasons from 1955 to 1957, as a result of which valuable evidence regarding the early history of East Bengal was brought to light (Pls. X, B–XIII).

Among the numerous Buddhist sites discovered on these hills, three, viz. (1) Salban Vihara, a large monastic establishment; (2) Kotila Mura, a group of three stupas; and (3) Charpatra Mura, a Buddhist shrine, were selected for digging.

At Salban Vihara, as a result of three seasons' excavations, the remains of a large monastery built roughly on the plan of a square with sides 550 feet long, containing a total of 115 cells with an entrance hall and an impressive gateway leading into the monastery on the north side, have been uncovered (Fig. 3 and Pl. XI). The monastic cells are arranged round a central shrine, which shows four building-phases. Deep diggings in the cells also revealed four periods of building which correspond very well with those of the shrine. The original structure of the central shrine was built on a large scale, resembling in plan a great cross with chapels built in the projecting arms, each containing a bronze image of the Buddha. The plinth around is decorated with recessed courses of burnt bricks. The approach from the north led to a stepped terrace and an ambulatory passage 7 feet wide. The western basement wall is embellished with two courses of ornamented bricks and terracotta plaques which vividly illustrate the mythology and folklore of the countryside (Pls. XII and XIII).

From the evidence of inscribed copper plates, terracotta sealings, and coins recovered from the early levels of the cells, it is possible to say that the shrine was built by the Deva ruler, Sri Bhava Deva. The shrine is a fully developed piece of Buddhist architecture of Bengal of the eighth century A.D. Judging from the similarity with other buildings in the neighbourhood, the style seems to be an original conception, which developed locally by the synthesis of Hindu and Buddhist elements. The cruciform plan has no parallel in the Indo-Pakistan Sub-continent but bears a resemblance with the temple of Kalasan in Java and Ananda in Burma, assigned to dates ranging from 778 to 1090. Since both these examples are later in date than the shrine of Salban Vihara, it is more likely that the idea penetrated into these countries with the spread of Buddhism from East Pakistan, rather than that East Pakistan received it from outside.

The second building-phase saw a change in the plan of the shrine from cruciform to oblong, in which a central pillared hall and a chamber for worship on the south were the main features. The oblong plan was retained in the third phase but on a reduced scale. The remains of the fourth or last phase are too scanty for reconstruction.

Twenty-five monastic cells have been cleared down to their original floor level. They show slight additions and alterations, including brick

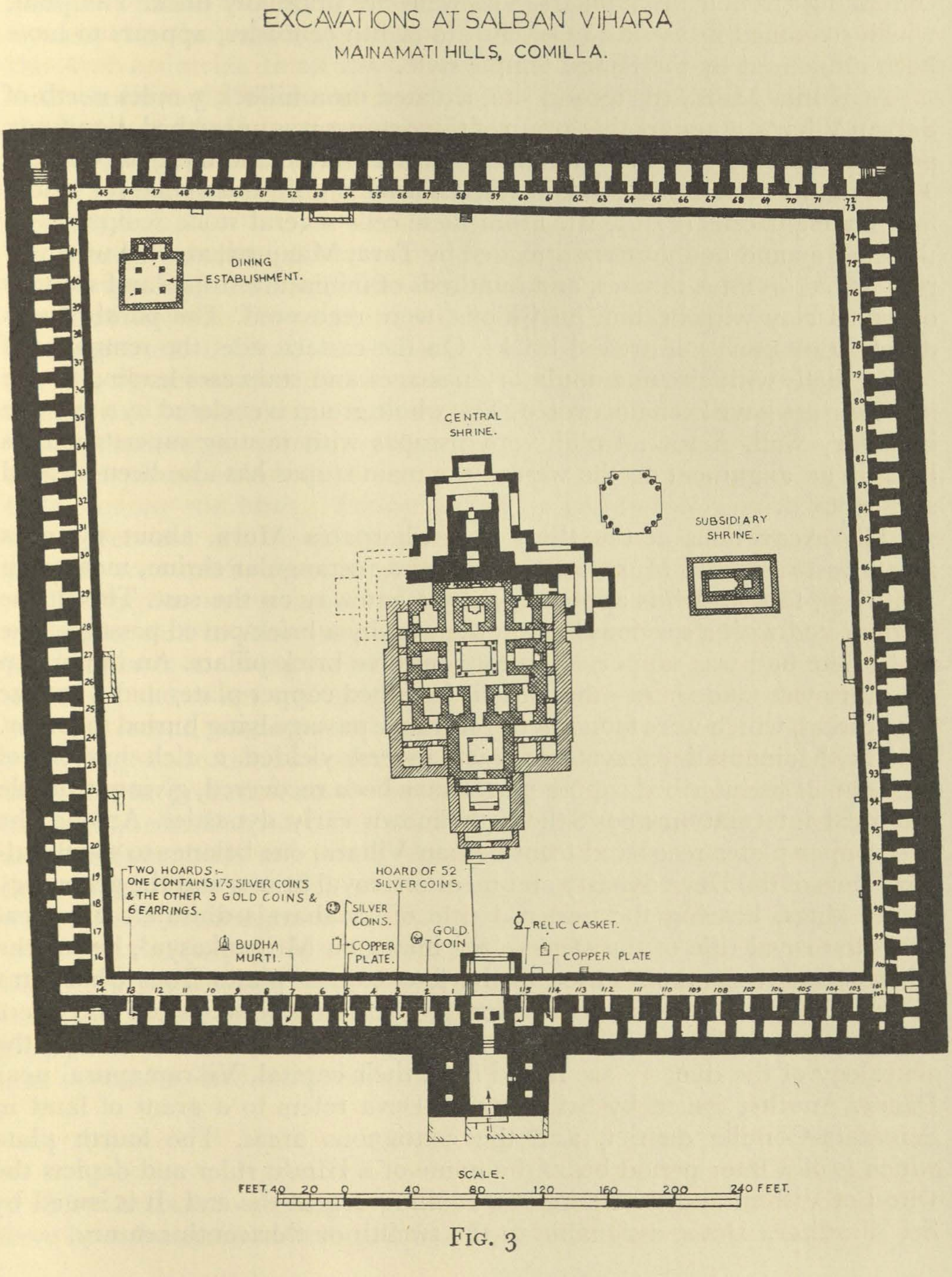


FIG. 3

platforms and corner staircases during the last two phases. The most important discoveries in the Salban Vihara were three hoards of gold and silver coins, two inscribed copper plates, a bronze relic casket, and a number of bronze statues.

Outside the main monastery to the north-east stands a square-shaped shrine with columned terrace on its east, connected with a brick-lined approach path. Around the sanctum runs an ambulatory path, 6½ feet wide, containing circular brick pillars. The walls are unusually thick. The plan, which remained in use in the seventh to eighth centuries, appears to have been influenced by the Hindu temple style.

At Kotila Mura, the second site, situated on a hillock 3 miles north of Salban Vihara, a remarkable group of three stupas was unearthed, signifying perhaps the *triratna*, i.e. the Buddha, Dharma (Law), and Sangha (Order). The ground plan of the middle stupa shows a hub and spokes of bricks forming eight cells (Pl. X, B). From these cells several stone sculptures of the Buddha and Bodhisattvas attended by Tara, Manjusri, and lay worshippers seated on lotus thrones, and hundreds of miniature stupas and sealings of baked clay with Brahmi insciptions, were recovered. The plinth shows deeply sunk panels of dressed bricks. On the eastern side, the remnants of oblong halls with circumambulatory passages and staircases leading to the inner shrines have been uncovered. The whole group is enclosed by a massive boundary wall. A row of nine votive stupas with missing superstructures lying in an alignment on the west of the main stupas has also been cleared and exposed.

The excavations at the third site, Charpatra Mura, about 1½ miles north-west of Kotila Mura, have revealed a rectangular shrine, measuring 105 by 55 feet, which is approached by a gateway on the east. The shrine is connected with a spacious hall on the west by a brick-paved passage. The roof of the hall was supported on four massive brick pillars. An important discovery was made here—that of four inscribed copper plates and a bronze relic-casket, which were found in the entrance passage lying buried together.

The Mainamati excavations have indeed yielded a rich harvest of finds. In all six inscribed copper plates have been recovered, giving valuable historical information about the little-known early dynasties. Among the two copper plates recovered from Salban Vihara, one belongs to the Buddhist rulers of the Deva dynasty and mentions royal grants and the genealogy of the kings, bearing the imperial title of 'Maharaja-dhiraja'. The seal bears the royal title of the Devas, 'Sri Bhangala Mrigankasya', below the Dharmachakra symbol. Three of the four copper plates from Charpatra Mura, belong to the Chandras of Bengal who ruled between 900 and 1000. Two plates bearing the name of Sri Ladaha Chandra Deva and tracing the genealogy of the dynasty are issued from their capital, Vikramapura, near Dacca. Another issued by Sri Govinda Deva refers to a grant of land in Samatata-Comilla district, and the contiguous areas. The fourth plate which is of a later period bears the name of a Hindu ruler and depicts the wheel of Vishnu and the figure of a running dog at the end. It is issued by Sri Viradhara Deva, assignable to the twelfth or thirteenth century.

Three hoards of gold and silver coins have been recovered from the early levels of Salban Vihara. A few of them belong to Chandra Gupta II (380–418), the rest belonging to the Deva kings as shown by the legend 'Bengala Mriganka'. One gold coin recovered from the upper levels at Kotila Mura belongs to the Abbasid caliph, Abu Ahmad Abdullah Al-Muntasir Billah (1242–58), while another silver coin of the Abbasid caliphs with the name of the ruler missing was recovered from the early levels of Salban Vihara. It evidently belongs to the early period of the Abbasid dynasty Its discovery suggests trade relations between East Pakistan and the Arab countries. In all 225 silver coins in three denominations, inscribed with the legend, 'Patikera', or 'Lalitakara', or 'Dharma Vijaya' above the figure of a bull, on the obverse, and the *triratna*, sun and moon symbols on the reverse, were found in two of these hoards. These coins were issued, as the legend shows, by the independent rulers of Bengal and not imported from Arakan.

A large number of terracotta plaques depicting a variety of subject-matter was found in the Salban Vihara, by the basement wall of the early cruciform shrine. They are indeed marvels of sculptural art and provide an insight into the folklore and art of East Pakistan of that period. There are also figures of dancers and warriors with animated and spirited poses; semi-divine beings like Kinnara showing a womanish head and bust; birds with spread wings, and divine beings of various kinds. Several animals such as the elephant, wild boar, horse, and monkey are depicted in a naturalistic style. Among the birds, 'Rajhansa' occurs frequently. There are fighting scenes between a hooded cobra and a mongoose. In many respects these plaques are superior in style and execution to those of Paharpur.

The bronze votive statues of the Buddha, Bodhisattvas, and Tara reflect a superior skill in their execution. The Buddha is depicted in Bhumispasa Mudra (earth-touching attitude). A statue of Tara, profusely bedecked with jewellery, shows her sitting gracefully in Varada-Mudra (boon-bestowing pose). A second statue shows her standing on a lion.

A large collection of pottery has been recovered from these excavations. It occurs in profusion in the two early periods associated with fireplaces inside the cells. The ware is characterized by its whitish and pale red colour, and medium thick, soft and under-baked fabric. A majority of the vessels show traces of a red slip. The main types include shallow cooking-pots, with incised decoration on the curved base consisting of herring-bone and criss-cross designs; water pitchers; large storage jars fixed on floors; spouted vessels; sprinklers; shallow dishes; bowls, and a large number of oil-lamps—saucer-type, and with long stands but without lips. The top levels yielded grey pottery. A number of other objects of daily use, such as of iron, stone, and terracotta, and inscribed sealings were also found.

(v) Excavations at Charsada

The ancient mounds near Charsada, in the midst of the Peshawar plain, have been firmly identified with Pushkalavati or Peukelaotis ('Lotus City'),

an ancient capital of Gandhara. Trial-excavation carried out in 1903 in the highest of them, the Bala Hisar or High Fort, 60–70 feet high, and in certain lower mounds in the vicinity were indeterminate, and, at the invitation of the Pakistan Government, a renewed attempt was made in 1958 under the direction of Sir Mortimer Wheeler, working with the Department of Archaeology and with co-operation from the British Academy, to recover something of the buried history of the site. A complete section was cut down the surviving face of the Bala Hisar, and the mound was found to represent intensive occupation from the sixth century, i.e. from the Achaemenid occupation of Gandhara, to the second or first century B.C., with much reduced occupation extending into Muslim times. Its early history thus runs parallel to that of Taxila (Bhir Mound) in the Punjab, and the assertion of the *Ramayana* that Taxila and Pushkalavati were founded at the same time accords with the archaeological evidence.

Immediately to the east of the Bala Hisar and formerly delimiting it, a line of rampart and ditch was unearthed and ascribed to the recorded siege of the town by the troops of Alexander the Great in 327 B.C. These defences had followed the western bank of a river which was subsequently diverted, its bed being filled up with deposits mostly of the third and second centuries B.C. To the east of the river-bed the town spread during those centuries, and accumulative rebuildings constituted a long and ragged mound up to 20 feet in height. A house, built of mud-brick and representing five successive phases of construction, was partially excavated. In the area explored there was no evidence of occupation after the second half of the second century B.C., and two wells were filled up with material of that period.

With the generous co-operation of the Pakistan Air Force, the next phase was discovered by air-photography 3 furlongs to the north-north-east of the Bala Hisar. There a long, low mound known as Shaikhan has been dug into by local villagers uprooting buried brick walls for re-use. From the air, these untidy quarries, roughly following as they do the former building-lines, reveal a considerable part of a town plan in negative, with regularly laid-out buildings, chessboard streets, and the wreck of a large (presumably Buddhist) stupa or shrine. Furthermore, two hoards of Indo-Greek coins of the second or first century B.C. are recorded to have been found there by the plunderers. There can be no doubt that, like the second city of Taxila (Sirkap), Shaikhan represents a rebuilding of Pushkalavati within those two centuries on a fresh site and on a regular Graeco-Parthian plan. Subsequent excavation (1963) has confirmed this supposition.

Other extensive mounds in the vicinity include later phases of the city, not yet explored. But the general outline of the early story of the site is beginning to emerge. In principle it closely resembles that of Taxila. Like Taxila, it was a local capital, with its own regional modes and crafts. Like Taxila, it was absorbed into the Achaemenid Empire whilst retaining a measure of local control. Like Taxila, it stood upon the arterial route from Persia and Afghanistan into the subcontinent; it lay in the path of Alexander the Great, and in Graeco-Roman times carried an appreciable East–West trade. Again like Taxila, in those times it was moved to a new but adjacent

site and laid out substantially on a Western grid-plan. No doubt (though this is at present guesswork) it was, like Taxila, later moved by the Kushans to one of the other sites in the vicinity where relics of the Kushana period can be picked up.

As a city, Pushkalavati may be supposed to have perished at the hands of the White Huns who devastated the region in the fifth century A.D. Thereafter, the Bala Hisar, by reason of its commanding height, served occasionally to carry a fort or police-station until the eighteenth or nineteenth century. Long and partly systematic destruction has reduced it to about one-half of its original area.

The excavations have now been published by the Government of Pakistan and the British Academy: Mortimer Wheeler, *Charsada: a Metropolis of the North-West Frontier* (Oxford University Press, 1962).

(vi) Excavations at Banbhore

Banbhore, an early Islamic site, is situated on the north bank of the Gharo Creek, near the Karachi–Hyderabad highway about 40 miles east of Karachi (Fig. 4). It conceals the remains of a considerable ancient settle-

THE INDUS DELTA

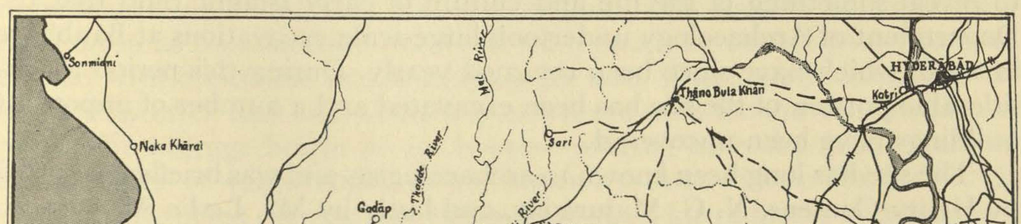


FIG. 4. The site of Banbhore

ment divided into two parts: the fortified citadel area of the mound itself measuring about 2,000 by 1,000 feet; and the lower unwalled city round the lake at the foot of the mound, extending far outside, which includes an industrial area and also an ancient graveyard. It is well situated to have been a port of some importance, once connected with the interior of the country by a branch of the Indus. Hydrographical studies have established that the Gharo Creek once formed the westernmost branch of the great river, which has since shifted its course and is now flowing by Thatta, 25 miles east of the site. Its identification with Debal, the famous Hindu port which fell to the young Arab general, Muhammad bin Quasim, has more than once been suggested. A few Arab ships which were carrying gifts to the Caliph from the King of Ceylon were robbed while anchored at this port. Failing to get any redress from the Hindu king, Dahir, the Governor of the eastern provinces of the Caliphate, Hajjaj bin Yusuf, sent two punitive expeditions, both of which failed. A third expedition under Muhammad bin Qasim entered Dahir's kingdom after crossing the Hab river in A.D. 712 and shattered his power at Debal. Within three years the whole country was overrun and Muslim rule in Sind was firmly established. New Arab cities like Nirun, Alor, Mansura, and Mahfuza grew up, all of which have been successfully identified except Debal.

It was to examine the question of its identification with Debal as well as to reveal something of the life and culture of early Islamic Sind that the Department of Archaeology undertook large-scale excavations at Banbhore in 1958, which have since been resumed yearly. During this period a considerable portion of the site has been excavated and a number of important buildings have been uncovered.

The site has long been known to archaeologists and was briefly examined by Henry Cousens, N. G. Majumdar, and lastly by Mr. Leslie Alcock who undertook useful preliminary excavations here in 1951 on behalf of the Archaeological Department.

The substantive excavations since 1958 have revealed the plan of a well-fortified harbour town, with some details of art and architecture and a wealth of material objects of early-Islamic date. Deep digging at half a dozen points has provided an almost complete cross-section of the mound from top to bottom, revealing the remains of three distinct periods: the Scytho-Parthian, Hindu-Buddhist, and Islamic, datable from the first century B.C. to the thirteenth century A.D.

On the citadel, though there is no cultural break during the long period of occupation from the eighth to the thirteenth century A.D., four distinct phases, roughly corresponding with four building periods of the defence wall, are clearly traceable. The earliest phase is assignable, on the basis of ceramic and other evidence, to the Umayyad period. The imposing defence-system of the citadel owes its origin to this period (Pls. XIV and XVI, A). The contemporary stone buildings are characterized by massive solidity and strength. The second phase corresponding with the first major repairs of the defence wall is assigned to the Abbasid period, covering the ninth to tenth centuries A.D. It is represented by mud-brick houses of less solid

character, built on stone foundations, associated with a variety of slip-painted glazed wares and a few imported Chinese celadon, porcelain, and stone wares. The third phase which continued to the beginning of the thirteenth century A.D. corresponds with the rebuilding of the defence wall of the citadel on a slightly reduced scale. This period is distinguished by the introduction of sgraffiato glazed wares (Pl. XXIII) which almost totally replaced other types of pottery. The major part of the excavated remains belongs to this period; the city was well planned with a network of streets and narrow lanes between blocks of houses, mostly of mud-bricks. Some of these narrow lanes were found to communicate with the outside, piercing through the defence wall which must by now have lost much of its original purpose. The last phase is represented by the topmost defence wall of weak and shoddy character, encircling the eastern half of the citadel only, the western half being abandoned for good after some great upheaval towards the middle of the thirteenth century A.D.

Of the Islamic buildings uncovered during the first two seasons, the most remarkable is a palatial stone building of semicircular shape which was provided with lime-plastered floors, a fine stepped entrance and a large circular well inside and a few soak-pits outside. A massive house of mud-bricks with unusually thick walls and deep stone foundations is also worth mentioning. Other important buildings were constructed with semi-dressed stone blocks, while ordinary houses were built with mud-brick superstructures on stone foundations. The walls were generally coated with fine mud plaster, with occasional use of lime-plaster also. There are indications that large, thin brick tiles and wooden beams were used for the construction of roofs. The average height of the houses—judging from the fallen material and thickness of walls—could not have been less than 10 feet. The well-to-do people constructed their houses with square-sized burnt bricks and plastered the floors and walls with lime. There was an extensive re-use of earlier material particularly of carved stones.

The solidly built 19-foot-high defence wall, which girdles the citadel, is the most impressive structure of the site. It was originally built with large and heavy blocks of semi-dressed and undressed stones set in mud mortar, strengthened by large semicircular bastions at regular intervals, and supported by a solid stone revetment at the base (Pl. XIV, A). In subsequent repairs and rebuildings, smaller stones were used for facing in mud mortar, the core being filled up with mud-bricks or hard, gritty soil. At places in this later period the wall was pierced by narrow lanes, and houses were built against it, which must have reduced its defensive character. The last period of the defence wall, of weak and shoddy character, represents a small military outpost in the thirteenth century which appears to have existed for a short period only.

Three gateways of the citadel have been uncovered. The gateway connecting the eastern lower city and the ancient lake on the north with the citadel appears to have been used mainly for the supply of drinking water to the city reservoir, which lies just near it. A flight of badly preserved broad steps on the north lead to the lake. The other two gateways with finely

preserved flights of steps are impressive. The north-eastern gateway connects the semicircular mansion with the lake on the east, while the southern gateway on the bank of the creek connects the principal street of the city with the anchorage outside (Pls. XIV, B, and XVI, A). This imposing and well-guarded entrance is flanked by two large and solidly built semicircular bastions. Behind the gate lies an entrance hall measuring 26 by 14 feet. The anchorage, which now lies half submerged in water in front of the southern gate, has deep stone foundations and a broad terrace-like waterfront in which were set a few long stone blocks with grooved and rounded head, probably bollards. This structure has been badly damaged by the tidal creek.

At the north-eastern foot of the citadel mound lies an ancient lake of considerable size, which collected rain for the supply of drinking water to this ancient settlement. It has silted up gradually during these long centuries and is now being re-excavated. Excavations have revealed a solid stone embankment round the lake which protected its banks from floods and also appears to have served as the perimeter wall of the lower city. There are traces of repairs and rebuilding indicated by the use of larger rough stone blocks in the lower courses, and smaller and semi-dressed stone blocks in the upper courses. There are traces of landing stages or 'ghats' at places along the waterfront.

The third season at Banbhore was marked by a number of significant discoveries, the most important being the great mosque at the centre of the citadel (Pl. XV). Two of the dated inscriptions found inside this structure make it the earliest known mosque of the Sub-continent (Pls. XVIII and XX, A). It was built roughly on a square plan, measuring 128 by 122 feet with a comparatively well-preserved 3- to 4-foot-wide outer wall of dressed stone blocks, and a fine brick-laid courtyard in the centre, which measures 75 by 58 feet. It contained covered cloisters and corridors on three sides, supported on double rows of pillars; and on the fourth side, i.e. western side, there is a spacious prayer chamber the roof of which was also supported on thirty-three pillars arranged in three rows. The stone bases of these pillars have been found *in situ*; some of them show carved ornamentation. The damaged tops of almost all of them were covered with decayed and charred remains of wood; impressions on clay of finely carved wood have also been observed in this area, which suggest that the roof of the mosque was supported on wooden columns. No mihrab is traceable in the western boundary wall, which was found in a broken condition. A similar omission of the normal mihrab occurs in other early mosques, such as those of Kufa and Wasit, dated A.D. 670 and 702 respectively. At this early period the mihrab was not regarded as indispensable. Other interesting features of the mosque include a lime-plastered ablution platform and a large drain near it on the western side to carry off rain-water from the courtyard, two entrances on the eastern and northern sides and a minor entrance on the western side connected with a small descending staircase. There are traces of wooden door-frames in the gates as well as in the prayer chamber.

Trial pits in the streets outside the boundary wall of the mosque revealed successive street levels which correspond with the successive floor levels of the mosque, the four clear building-periods of which were built one upon another, the earliest one being extraordinarily solid and well built.

On the north side of the mosque an imposing building with five inner corridors and rows of rooms arranged on both sides of them, and with an impressive entrance facing the northern gate of the mosque, is supposed to be either the attached 'maktab' or some administrative building of importance. It is yet to be fully cleared.

Of the objects recovered from the mosque area, the most important are the Kufic inscriptions carved on dressed stone slabs, thirteen of which have so far been found. Two of them are dated 109 A.H. (A.D. 727) and 294 A.H. (A.D. 907) (Pls. XVIII and XX, A). It is significant that the date of the conquest of Debal is not very far from that of the earlier inscription. Both inscriptions mention the name of the reigning amirs. Other inscriptions are still under study. Carved stone blocks from Hindu buildings, which appear to have been re-used in the mosque, have also been recovered from this area (Pl. XVII, B). Indeed carved stones of the pre-Islamic period have been extensively re-used in the Islamic building-levels.

The other interesting building uncovered during the third season represents a Siva temple of the pre-Muslim period. Excavations in the deep trenches had already revealed unmistakable evidence of Hindu-Buddhist occupation immediately below the Muslim occupation. While digging another deep trench in the western part of the site, this temple-like structure with several coats of fine red paint on lime plaster and other architectural decoration was exposed. An attached lime-plastered pedestal, probably for a large deity, and two votive Siva lingams, one complete with yoni, recovered from the area of this building strongly suggest its character as a Siva temple (Pls. XVI, B, and XVII, A). It is the first building discovered so far in the pre-Muslim levels of this site.

From the water-logged deeper levels of the citadel at a depth of about 25 to 30 feet from the surface, cultural material of Scytho-Parthian date has been recovered. It consists of finely polished red burnished pottery with bright-red and dark-brown smooth surface. Its principal forms include delicate spouted vessels (*kuzas*) with vertically pierced narrow neck. Similar high-necked vessels with perforated spouts were unearthed in 1912 by Sir John Marshall in the first century B.C. levels at Taxila.

Briefly, as a result of the last three seasons' diggings, we have been able to classify pottery from the earliest water-logged levels of the Scythian period of the first century B.C. to the last levels of the Muslim period occupation assignable to the middle of the thirteenth century A.D.

The Islamic pottery consists of a large variety of plain, painted, glazed, stamped, and incised wares. In the early Muslim levels thin and light white-paste pottery with finely executed floral and geometric patterns in relief, applied or incised, was probably imported from Syria. Of particular interest is a small-handled cup bearing a Kufic couplet (Pl. XIX). A similar cup recovered from Susa is now exhibited in the Musée Guimet. Large thick-

textured jars of deep blue-green glaze, showing relief patterns on the exterior, are of Sassanian origin. The Persian influence persisted in the later period also, as several of these jars occur in the upper levels. The unglazed thin-textured polychrome pottery painted in black and red colour on dull-red or cream slip with friezes of stylized ducks, waterfowl, fishes, peacocks with elaborate hachured tails, the rising sun, and other related motifs appears to be a continuation of the pre-Muslim tradition with additions of such Islamic motifs as camels (Pl. XXII). The stylized birds and fishes are invariably shown against a dotted background. The painted designs are sometimes combined with moulded geometric patterns in low relief. Common types include spouted lotas (*kuzas*), sgraffiato glazed dishes and bowls (Pl. XXIII), slip-painted and splashed or mottled glazed wares, some bearing Kufic inscriptions, and Chinese wares. A large amount of plain household pottery of various shapes and sizes also came from the upper levels.

The pottery from pre-Muslim levels includes a fine polychrome ware and a variety of stamped and moulded wares, including Sassanian types of moulded pottery decorated with friezes of relief animals and birds in circles in naturalistic style. Its common form is represented by the spouted lota with narrow base and wide angular shoulders on which the decorations were impressed. No glazed pottery has yet been observed in pre-Muslim levels. The stamped pottery is generally decorated with geometric patterns while the moulded pottery bears floral-cum-geometric patterns, sometimes combined with human and animal figures. A number of pottery moulds have been recovered, showing a great variety of decorative patterns. A dancing couple and an elephant deserve special mention. The polychrome pottery with thin polished fabric and delicately painted geometric, floral, and bird motifs in dark-brown, red, and black colour on a cream slip has been observed to overlap the early levels of the Islamic period, showing that though new elements were introduced by the Muslims, old artistic traditions were not discarded. A few of the motifs of this pottery, like the sunflower, lotus, and peacock with elongated tail, are very pleasing.

Of the minor objects from the excavations, the coins are the most important. They include a few thousands of copper coins and about fifty silver coins, almost entirely of the Islamic period, and one gold coin of the ninth Abbasid caliph, Wasiq Billah (A.D. 842–7). The gold, silver, and a number of the copper coins are in good condition and decipherable; they have yielded significant information regarding the chronology of the site and corroborate the evidence of the inscriptions. Two of the dated silver coins belong to the Caliph Hisham bin Abdul Malik, another to Al-Mamun, while some copper coins belong to Hisham bin Amr, the governor of the second Abbasid caliph, Al-Mansur, and to other caliphs and their governors and local rulers. There are also three silver coins of the Sassanian kings.

Glass objects include bottle-necks, miniature perfume pots, vases of various shapes and sizes, small cups with segmented stems, bowls and cups, and some painted pieces of vessels. Finely carved ivory objects consist of handles, beads, bangles, combs, and other decorative pieces. Among other

finds are copper finger-rings, bangles, antimony rods, and small bells, iron arrowheads, knife and sword blades, hilts, nails of various sizes, shell bangles and beads, terracotta animal figurines, beads, and toys, semi-precious stone beads of agate, carnelian, crystal, onyx, lapis-lazuli, and other stone objects.

Interesting finds from the pre-Muslim levels are several pieces of plain pottery bearing proto-Nagri inscriptions written on the body with black ink, recording measurements of weight; terracotta female heads executed in a naturalistic manner; animal figurines, and a few broken pieces of greenish-grey stone statuettes.

Banbhore appears to have come to an end by the middle of the thirteenth century, partly due to the shifting of the Indus river and partly due to a violent disturbance which is evidenced everywhere by damaged buildings, fallen materials, ashes, and skeletons associated with arrowheads and sword blades. This final destruction of the city is attributed to the recorded invasion of Jalaluddin Khawrezm Shah.

(vii) Excavations at Lahore Fort

With a view to examining the origin and early history of Lahore, the Department of Archaeology undertook excavations in the high mound which is crowned by the Old Fort, with its Moghal palaces and buildings. The digging operations lasted for three months in 1959 (Pl. XXIV).

In the spacious lawn in front of the Diwan-i-Aam, a large trench, measuring 180 by 60 feet, was laid out for excavation. In some of the pits unobstructed by structural remains, digging was carried down to a maximum depth of 50 feet, there reaching the natural soil. Building remains of sun-dried bricks and burnt bricks belonging to different periods were brought to light, with a mass of associated cultural materials. In all, twenty stratified cultural layers were encountered which represented, from top to bottom on the natural soil, four distinct periods, viz.: the British and Sikh, Moghal, pre-Moghal—and what is more important—the pre-Muslim periods.

The upper levels (Period I from the top) revealed floors and building remains of the British and Sikh periods. The structures are characterized by 6-foot-wide foundations of re-used burnt bricks penetrating to a depth of 10 feet from the surface. The sizes of the bricks are 11 by $5\frac{1}{2}$ by $2\frac{1}{2}$ inches, and 10 by 1 by 6 inches. Period II, which belongs to the Moghal period, is marked by intensive building activities, with structures of a solid and massive kind. Period III is marked by less frequent structural remains. The outstanding find from these levels was a gold coin of Mahmood of Ghazni, struck at Ghazni during the time of the Abbasid caliph, al-Qadir Billah.

Below the pre-Moghal levels the remains of the non-Muslim or Hindu period were encountered. The beginning of Period IV was marked by the appearance of a 7-foot-thick layer of debris mixed with fallen mud-bricks, indicating a great disturbance. The clearance of this thick deposit revealed a 12-foot-high wall of mud-bricks against which much cultural debris had

accumulated. This may represent the non-Muslim mud-brick fort, which is recorded to have been sacked by Mahmood of Ghazni during his Indian campaigns.

The finds recovered from the lowest levels in Period IV are of non-Muslim origin. Well-burnt pottery consisting of cooking pots, handled jugs, long-mouthed vessels, oil-lamps of different shapes, bells, and cone-shaped stoppers, and a number of miniature vases have been found.

Among the human figurines, the female figures of a mother-goddess with well-developed facial features and elongated head-dress are interesting. A number of animal figurines were also discovered, among which occurs a saddled-horse type.

An amphora deserves special mention. It is painted with intricate geometric and floral designs with black paint on a whitish background. Male and female figures, spotted cows, and peacocks in fighting mood are represented on the pot in a remarkably life-like manner. One standing female figure wears a long dress and holds a bunch of flowers in her hand. Another figure, perhaps of a goddess, wears a crown-like head-dress and ear-studs of typical Hindu style. The male figure standing in front of an elephant and holding a thunderbolt perhaps represents Indra. The whole scene is mythical and the amphora was no doubt meant for ritual purposes.

While these excavations were in progress, the discovery of antiquities was reported from Haveli Dhian Singh in Shahi Mohallah, where a pit was being dug in search of sweet earth. The Department started methodical digging here to ascertain the antiquity of the place and to obtain additional evidence for comparison, if possible, with the discoveries at Lahore Fort. The excavations revealed well-stratified accumulations 30 feet in depth, indicating a prolonged occupation from the pre-Muslim to the Sikh periods. The materials recovered from the levels below 20 feet were unmistakably of non-Muslim origin, resembling those of the pre-Muslim levels of the Fort. Among the interesting finds are beaked-nose female figurines and a male figurine showing a conical head-dress in Scythian style. A votive tank resembling that recovered from second-century A.D. levels at Taxila was also found. It was used by Hindu maidens for the rituals of Yama-Pukur-Brata.

The pottery from Muslim levels consists of glazed and unglazed pottery with stamped and moulded floral designs on micaceous surface, oil-lamps, shallow basins, water-pitchers, and jar-covers with conical knob in the centre. Pottery from the uppermost levels of Period I is characterized by the frequency of painted Chinese porcelain and rough pottery.

The discoveries made at Lahore Fort and in the precincts of Haveli Dhian Singh have thrown new light on the obscure periods of early Lahore, and have helped to link up pre-Muslim levels with the Islamic periods.

(b) EXCAVATIONS BY THE FOREIGN MISSIONS

Apart from its own excavations, the Department of Archaeology has collaborated with foreign archaeological missions licensed to carry out field-



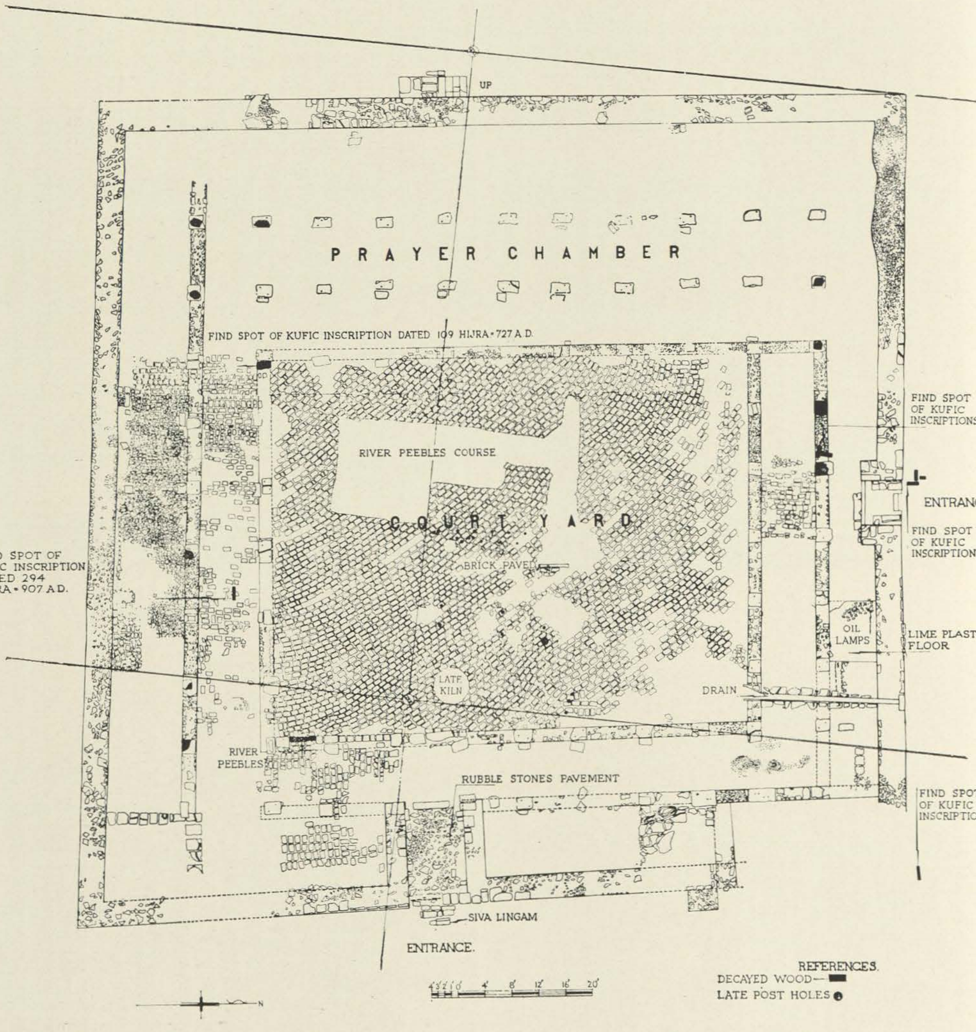
A. The fortification, with one of the bastions during excavation



B. The north-eastern gate

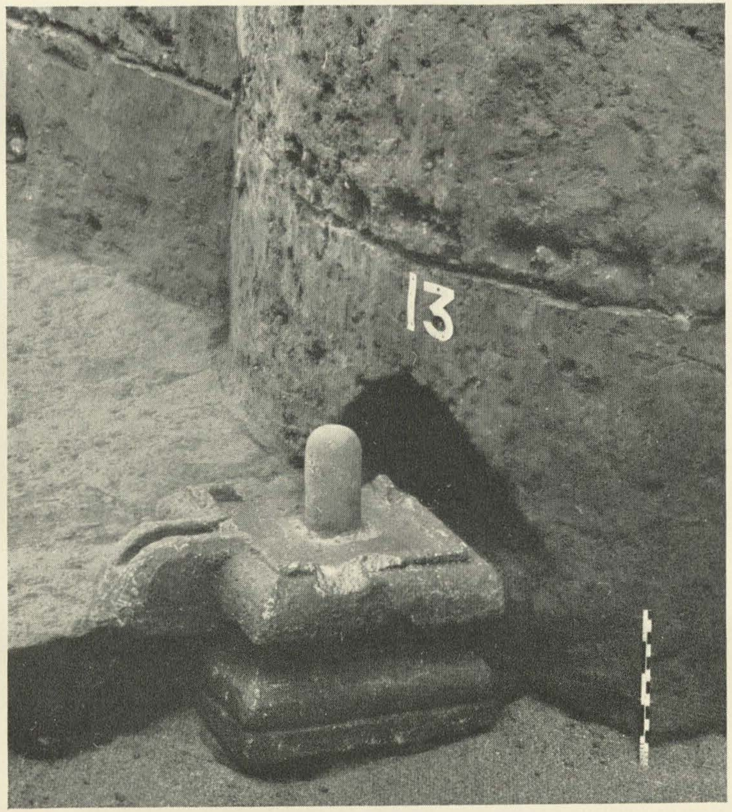
BANBHORE

BANBHORE
PLAN OF GREAT MOSQUE





A. The southern gate



B. Votive Siva Lingam *in situ* on the floor of a Hindu temple under the mound

BANBHORE

Plate XVII



A. Hindu Siva Lingam, re-used in the area of the Great Mosque



B. Hindu carved stone from the area of the Great Mosque

BANBHORE

PLATE XVIII

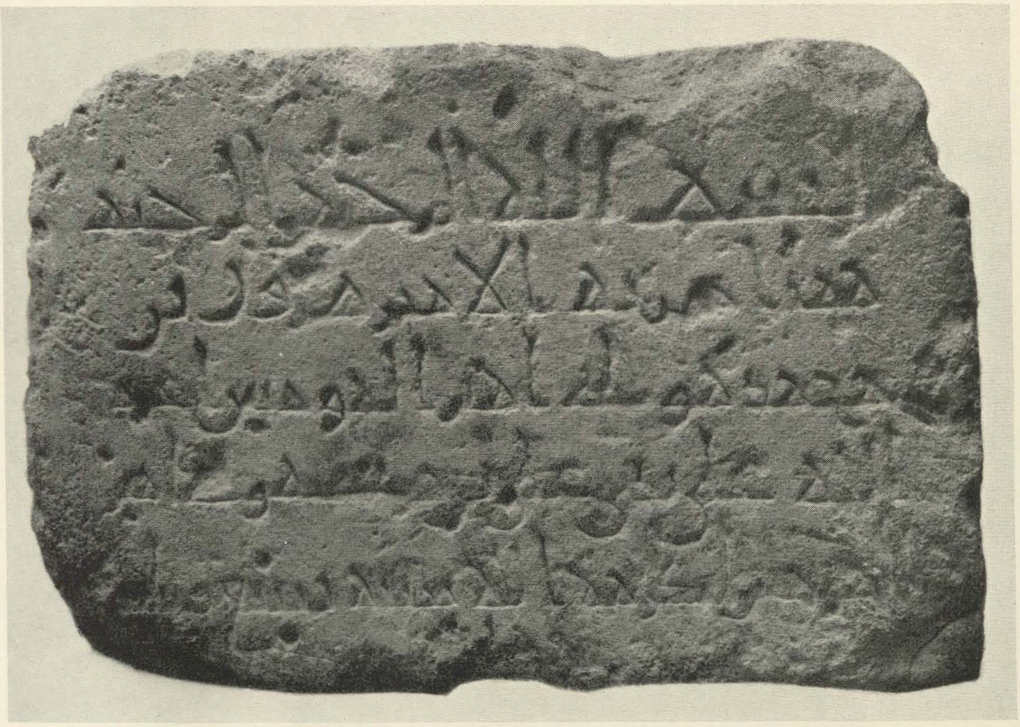


Banbhore: Kufic inscription dated 294 A.H. (A.D. 907) from the area of the Great Mosque

"In the name of Allah, the most gracious and most merciful. There is no God but Allah alone and verily Mohommed is his Messenger and Servant. Only he inhabits Mosques of Allah who believes in Allah . . . . This is what Amir Mohammad ibn Abdu(?) has ordered as to its structure in the year 294 A.H."



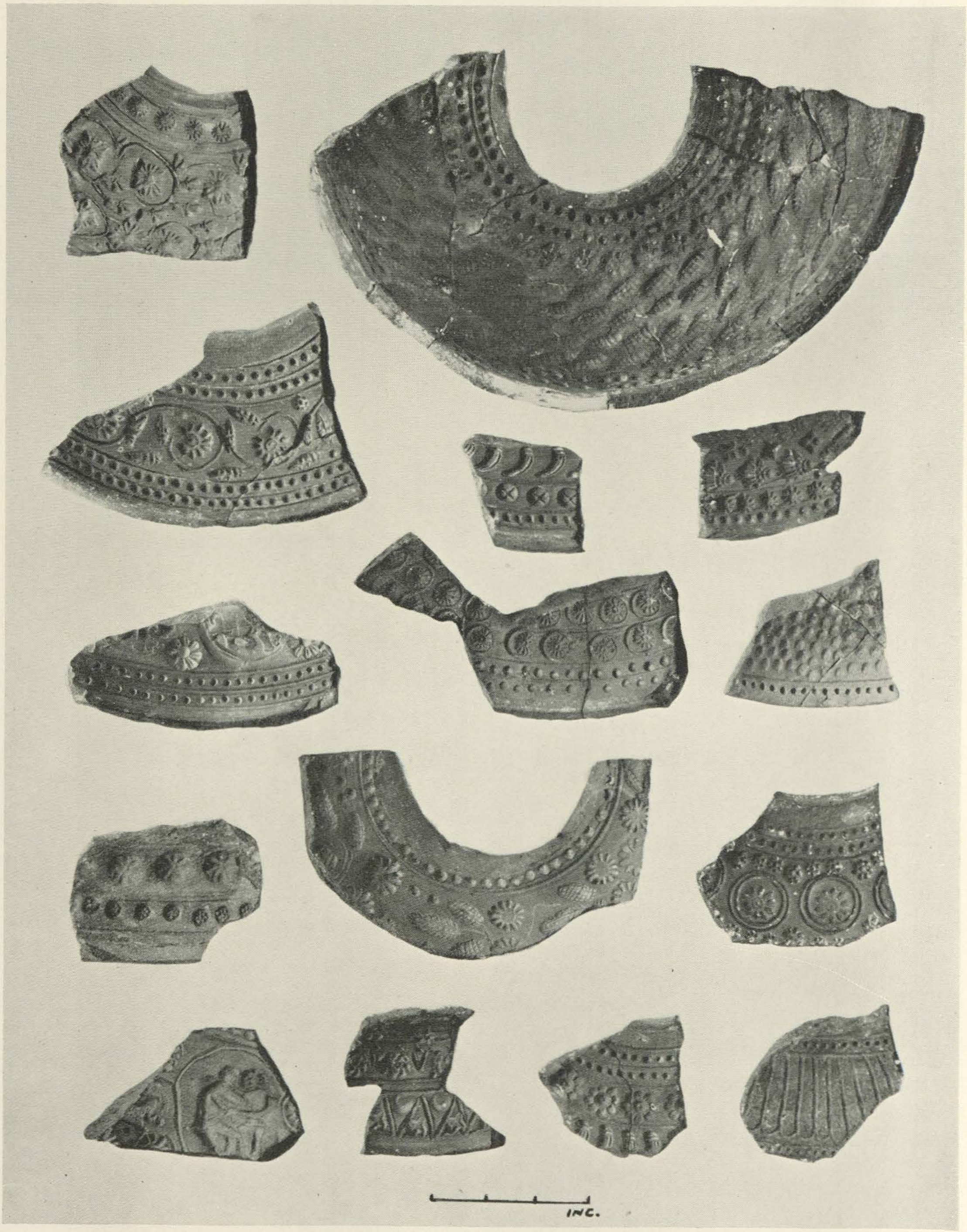
Banbhore: cup with Kufic couplet, from an early Islamic level



A. Banbhore: Kufic inscription from the area of the Great Mosque recording the building or elaboration of the Mosque, apparently in 109 A.H. (A.D. 727–8)



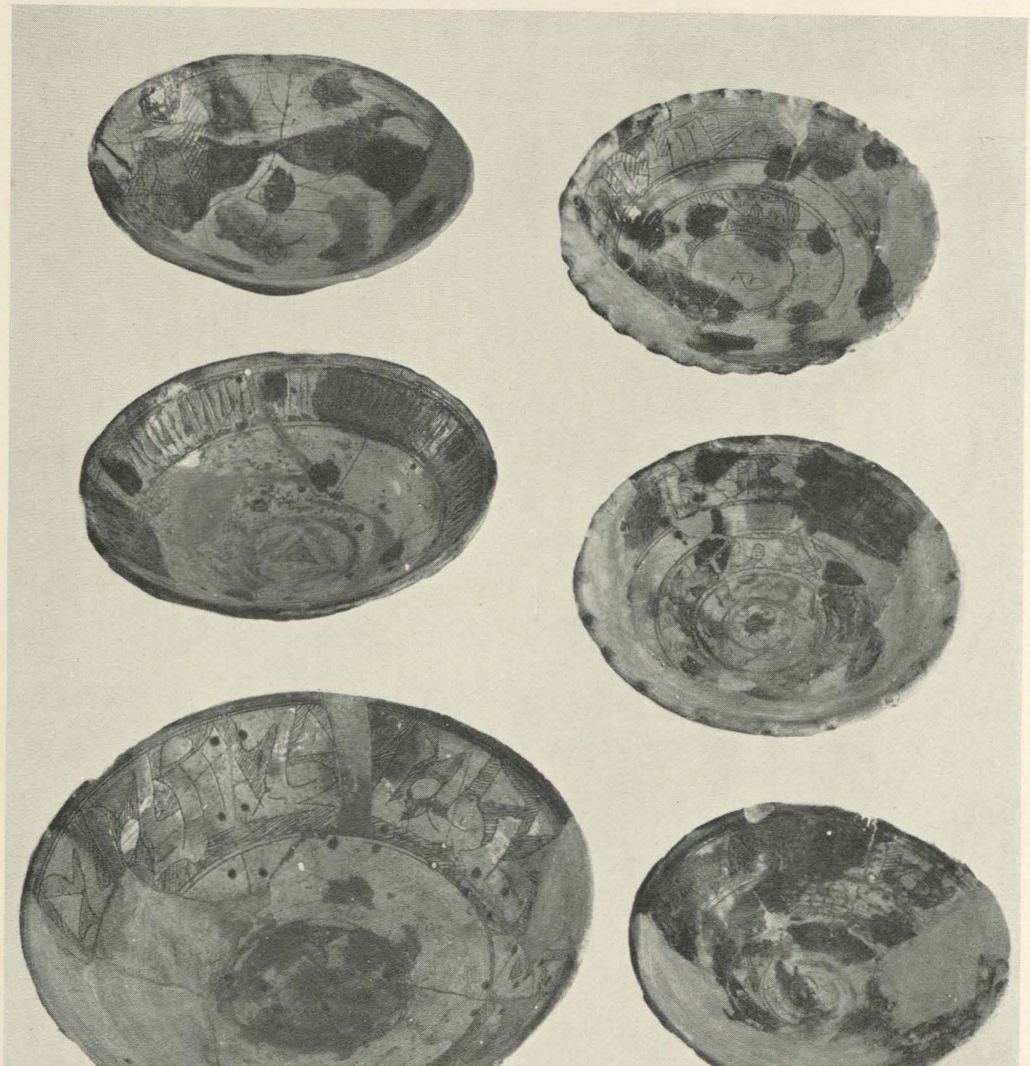
B. Banbhore: glazed sherds, inscribed



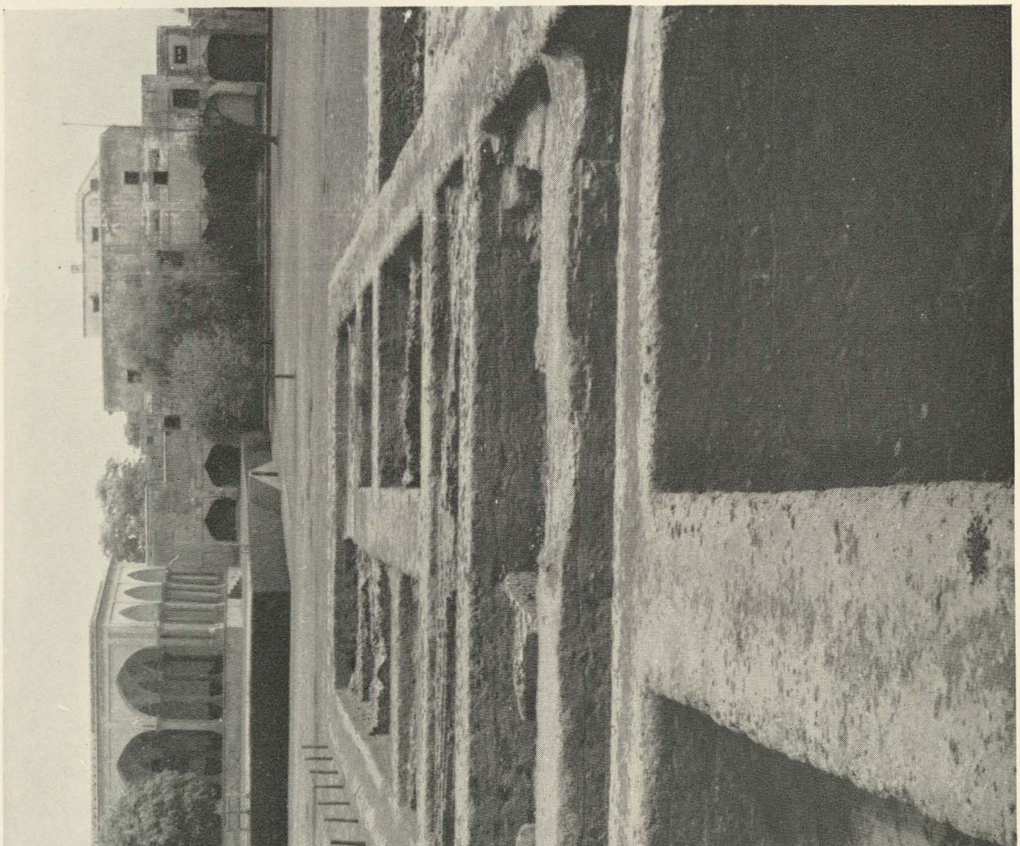
Banbhore: terracotta pottery-moulds from pre-Islamic levels



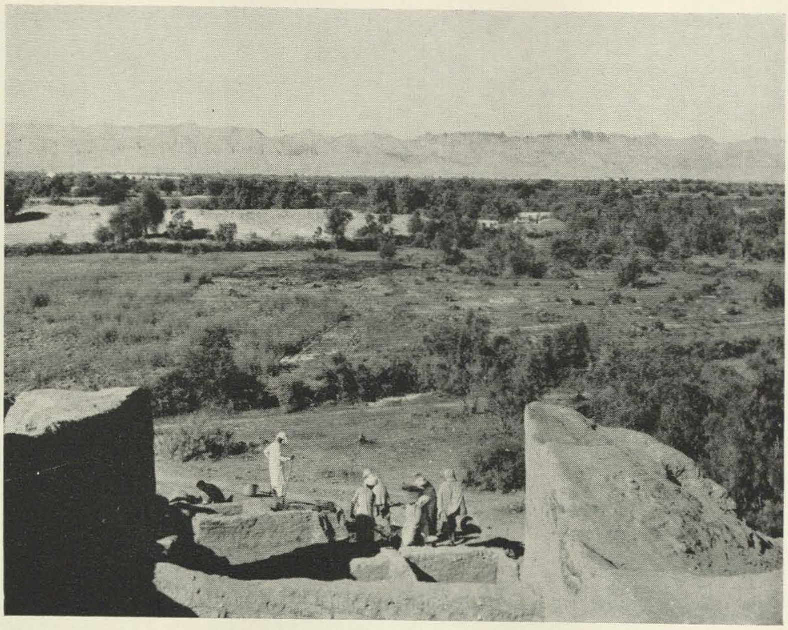
Banbhore: polychrome pottery of the Islamic period showing the continuation of pre-Islamic traditions



Banbhore: sgraffiato glazed dishes, eleventh century and later



Excavations in Lahore Fort

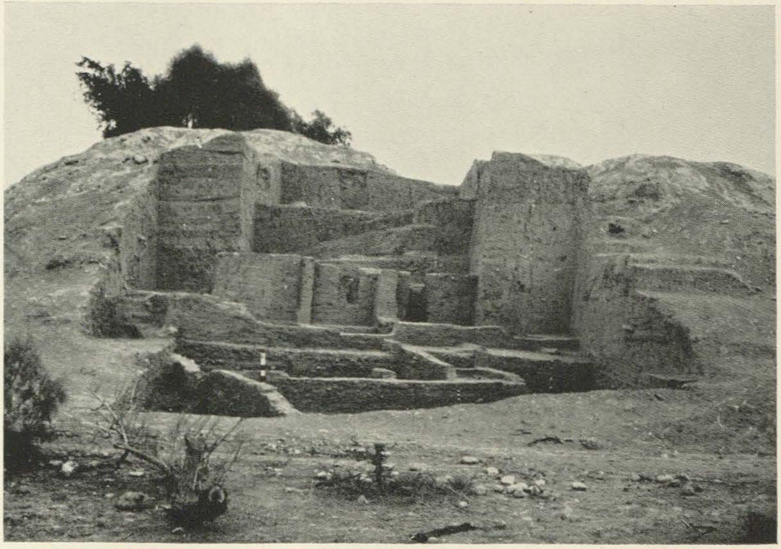




Amri: re-excavation of Majumdar's cutting on Mound B



A. Buildings of the 'Amri' culture in Mound A



B. Amri: excavation of 'Amri' buildings in Mound A

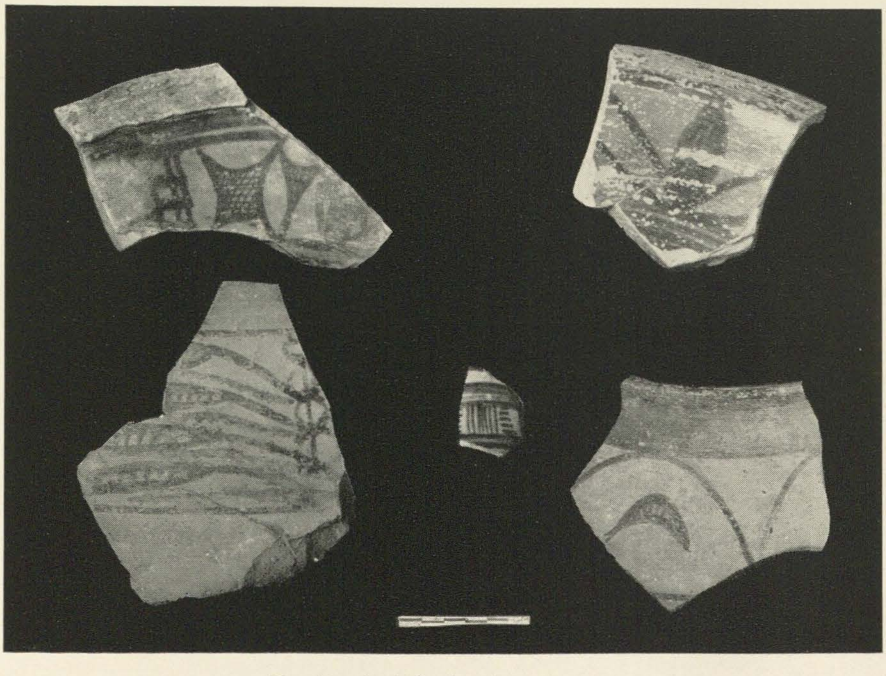




Amri: excavations in Mound A



A. Amri: late 'Amri' pot



B. Amri: 'Jhukar' pottery

PLATE XXIX



A



B

'Amri' ware

research in Pakistan. The results of their digging at the prehistoric site of Amri in Sind and Buddhist sites in Mardan and Swat are summarized here.

(i) Fresh Digging at Amri

(*Contributed by J.-M. Casal, Leader of the French Archaeological Mission*)

As early as 1834 the site of Amri had been noticed by Burnes, but it was N. G. Majumdar who brought its name into the scope of prehistoric archaeology. In the course of a methodical survey in Sind, he started excavations at Amri in 1929. Unfortunately, malaria compelled him to give up after a few days' work only. The sondages nevertheless enabled him to identify a specific class of ceramic, characteristic of what has since been called the *Amri Culture*. Found in levels underlying those with Harappan pottery, the newly discovered ware made it evident to Majumdar that 'the Amri Culture, while co-existent or identical with some [of the Mohenjo-daro] phases, antedated others'. For the first time, stratigraphical evidence had been given of a culture antedating the Indus or Harappan Civilization.

But since 1929 many additions have been made to our knowledge of the prehistoric period on the Sub-continent. The list of sites with Harappan material well outnumbers one hundred, and they spread over a large area from Makran to East Punjab, and from North Baluchistan to Kathiawad. Baluchistan alone displays a growing number of ancient sites, the relationship of which to each other and to the Harappan Civilization is not always well defined; the discovery at Harappa of lower layers with Baluchi features and, at Kot Diji, of an earlier civilization with peculiarities of its own, antedating the Harappan levels, made it more and more necessary to secure accurate data in order to cope with this increasing number of unsolved problems.

Such was the situation when, with the authorization of the Government of Pakistan, the French Archaeological Mission resumed in 1959, under the direction of the writer, the excavations prematurely interrupted 30 years earlier. The fieldwork was carried on during three seasons in all, and closed in March 1962.

Amri is a small village on the right bank of the Indus between Mohenjo-daro and Hyderabad, the former being some 100 miles upstream and the latter 63 miles downstream. The site is a few hundred yards on the north and north-west of the village, and must once have covered at least 500 to 600 yards from west to east, and some 150 yards from north to south. Repeated floodings have left light swellings on the ground, with two sizeable mounds (Fig. 5). The higher one, on the east, called by us Mound A, rises some 40 feet above the surrounding fields, and, on the west, a smaller one, Mound B, is only 13 feet high.

Mound A, littered with Muslim pottery including many glazed sherds shows a late occupation. But, on Mound B, the pottery collected on the surface is prehistoric and mostly belongs to the Harappan period. This was the place selected in 1929 by Majumdar for his sondages. His western trench revealed in the upper part layers containing Harappan ceramics with the

usual black patterns on a dark red background, but, below, a darker soil was found to contain a finer cream-coloured pottery with black geometric designs and with bands painted in red. This was the typical 'Amri pottery', for the first time differentiated from what Sir John Marshall had called the 'hybrid wares' then recently discovered in south Baluchistan. In a second sondage carried out at the foot of the same mound, Majumdar discovered again the bichrome Amri ware, but without the upper Harappan strata, which had been washed away by flood-erosion. For both periods, remnants of boulder foundations indicated former buildings and, along with the pottery, finds were recovered such as terracotta 'cakes' and beads, with the Harappan pottery, and flakes and cores in the Amri levels.

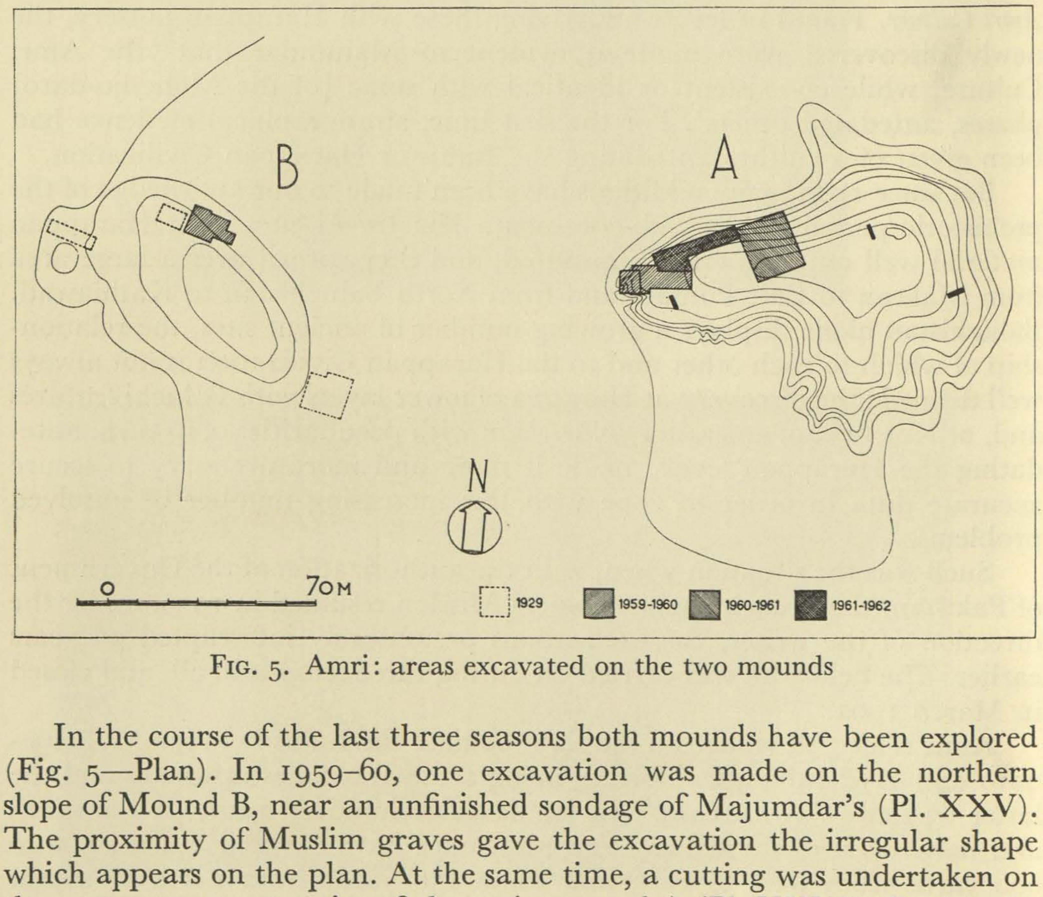


FIG. 5. Amri: areas excavated on the two mounds

In the course of the last three seasons both mounds have been explored (Fig. 5—Plan). In 1959–60, one excavation was made on the northern slope of Mound B, near an unfinished sondage of Majumdar's (Pl. XXV). The proximity of Muslim graves gave the excavation the irregular shape which appears on the plan. At the same time, a cutting was undertaken on the westernmost extremity of the main mound A (Pl. XXVI). During the second year, due to the impossibility of a further extension on Mound B, the whole effort was concentrated on the northern slope of Mound A. Finally, the last season (1961–2) was devoted to a trench some 100 feet long and 15 feet wide, linking the excavations of the preceding two years on Mound A (Pl. XXVII). In all cases, the trenches were dug down to the virgin soil.

The whole of this work revealed at Amri two series of occupations separated by a long abandonment. The younger one is historic and can be ascribed to the early Moghul period. We shall here concentrate on the

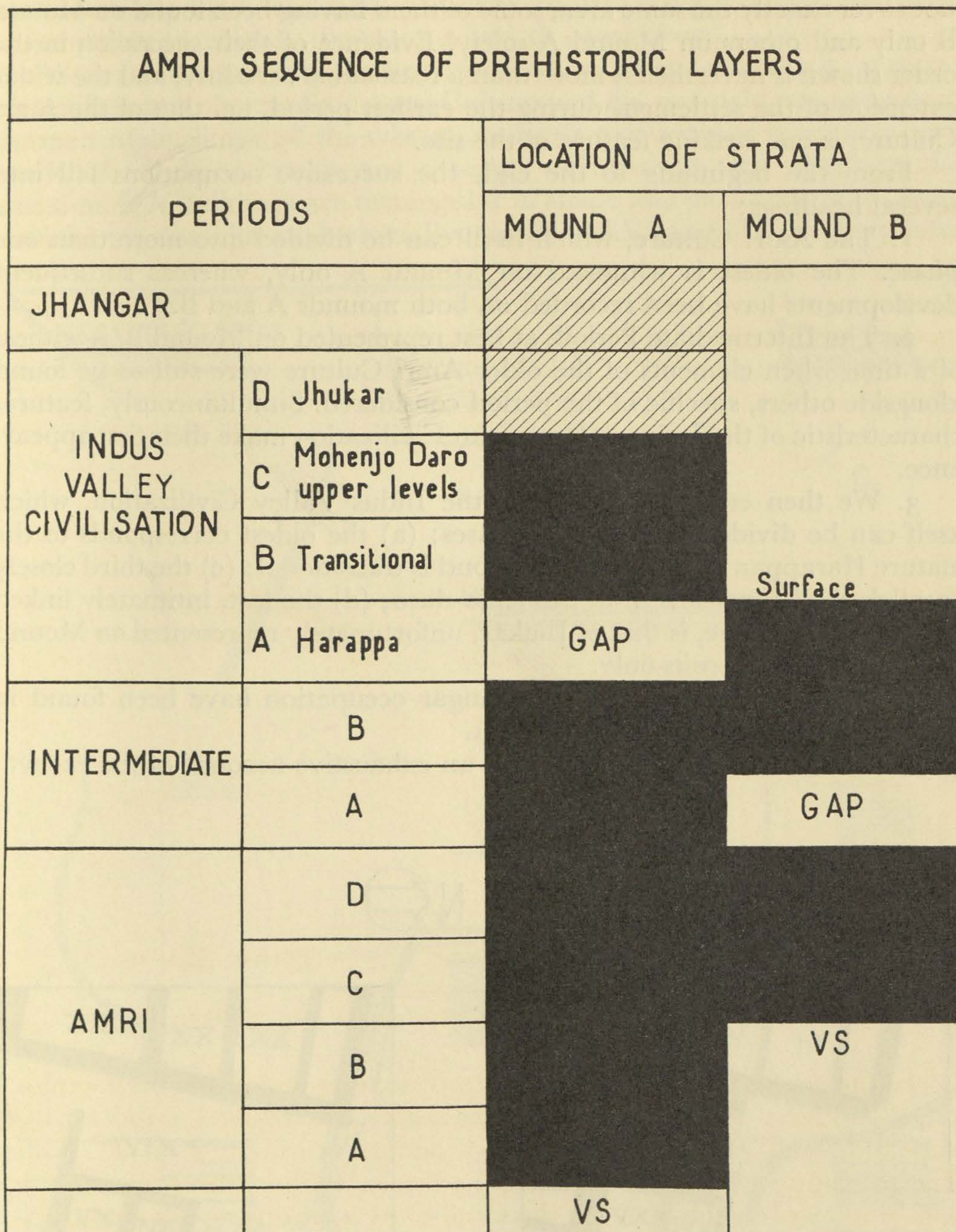


FIG. 6

second series which includes a succession of levels all belonging to prehistoric times.

The layers recorded on both mounds show for Amri a wide range of occupations, the earliest of which seems to go back as far as the very beginning of the third millennium, and the last can be placed in the course of the first millennium B.C.

As appears in the diagram (Fig. 6), all the cultures or occupations did

not cover exactly the same area, some of them having been found on Mound B only and others on Mound A solely. Evidence of their succession in the order shown is nevertheless more than a reasonable certainty, and the wider extension of the settlement during the earliest period, i.e. that of the Amri Culture, is one striking feature of the site.

From the beginning to the end, the successive occupations fall into several headings:

1. The Amri Culture, which itself can be divided into more than one phase. The oldest is witnessed on Mound A only, whereas subsequent developments have been recorded on both mounds A and B.

2. The Intermediate Period, at best represented on Mound B, is witness of a time when elements of the older Amri Culture were still to be found alongside others, specific of the period considered. Simultaneously, features characteristic of the Indus or Harappan Civilization make their first appearance.

3. We then enter the period of the Indus Valley Civilization, which itself can be divided into several phases: (a) the oldest corresponds to the mature Harappan period; (b) the second is transitional; (c) the third closely parallels the 'upper levels' of Mohenjo-daro; (d) the last, intimately linked to the preceding one, is that of Jhukar, unfortunately represented on Mound A by disturbed deposits only.

4. Finally, traces of a scarce Jhangar occupation have been found in the same disturbed area on Mound A.

This note does not set out to give an exhaustive account of the excava-

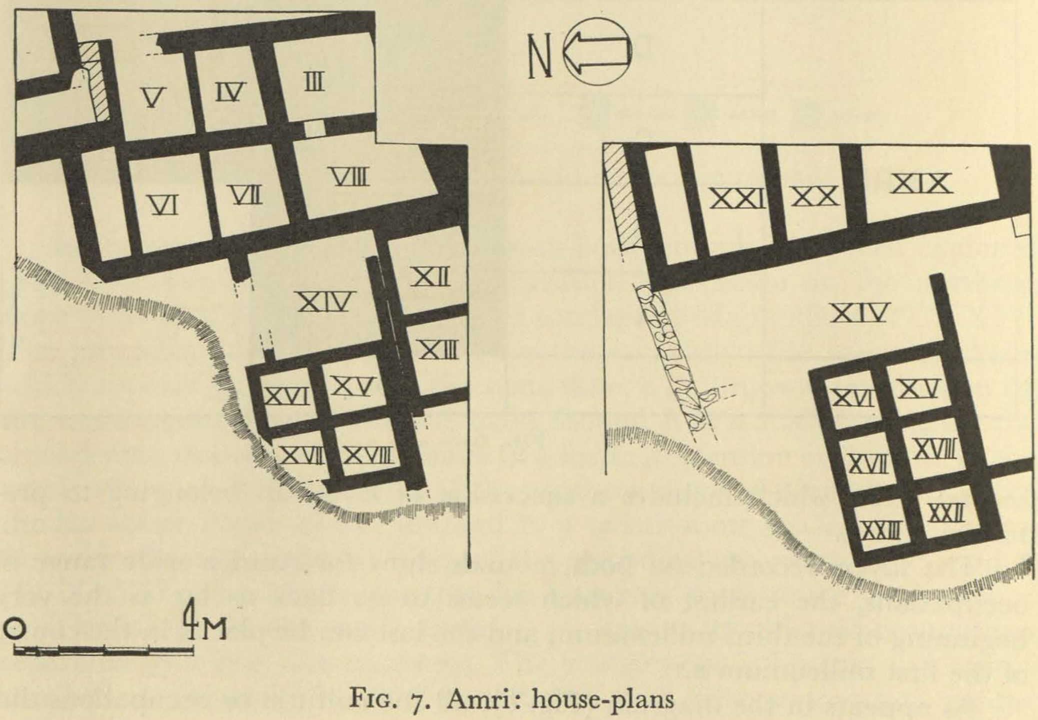


FIG. 7. Amri: house-plans

tions, pending the final report, but here we should nevertheless emphasize a few points concerning the various periods listed above.

With the exception of the first layers above virgin soil which represent the earliest two phases of the Amri Culture and did not yield any remains of permanent dwellings, all the subsequent levels were marked by small houses made of sun-dried bricks, one category of which is well worth special mention. The buildings are rectangular in shape and partitioned into small cubicles too small for anybody to live in (Pl. XXVI and Fig. 7). They have

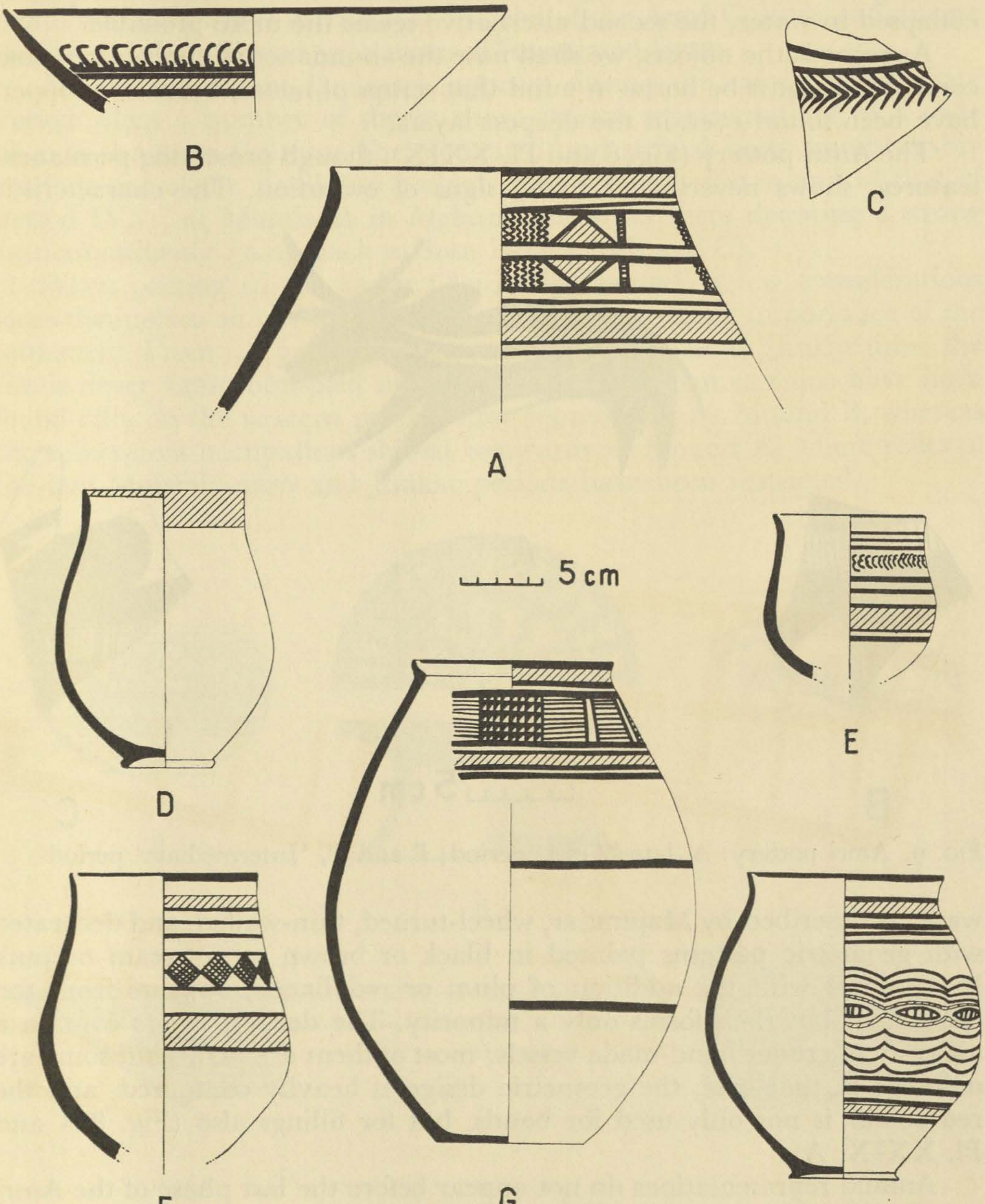


FIG. 8. 'Amri' ware

no means of communication either from compartment to compartment or with the outside. Some of them had been kept empty and others had been filled with rubbish and mud-bricks. In one instance only, the house with its inner compartments had been large enough for a door to be contrived between two cells. The likely solution to this intriguing problem seems to be that these blind buildings, some of them still 5 to 6 feet high when excavated, were only the basis of houses probably made of light material and raised well above ground. Was this scheme a security against frequent floodings or wild beasts? Since the material used would have quickly collapsed in water, the second alternative seems the more probable.

As regards the objects, we shall note the abundance of chert blades, and cores, but it must be borne in mind that scraps of metal, bronze or copper, have been found even in the deepest layers.

The Amri pottery (Fig. 8 and Pl. XXIX), though presenting permanent features, shows nevertheless many signs of evolution. The characteristic

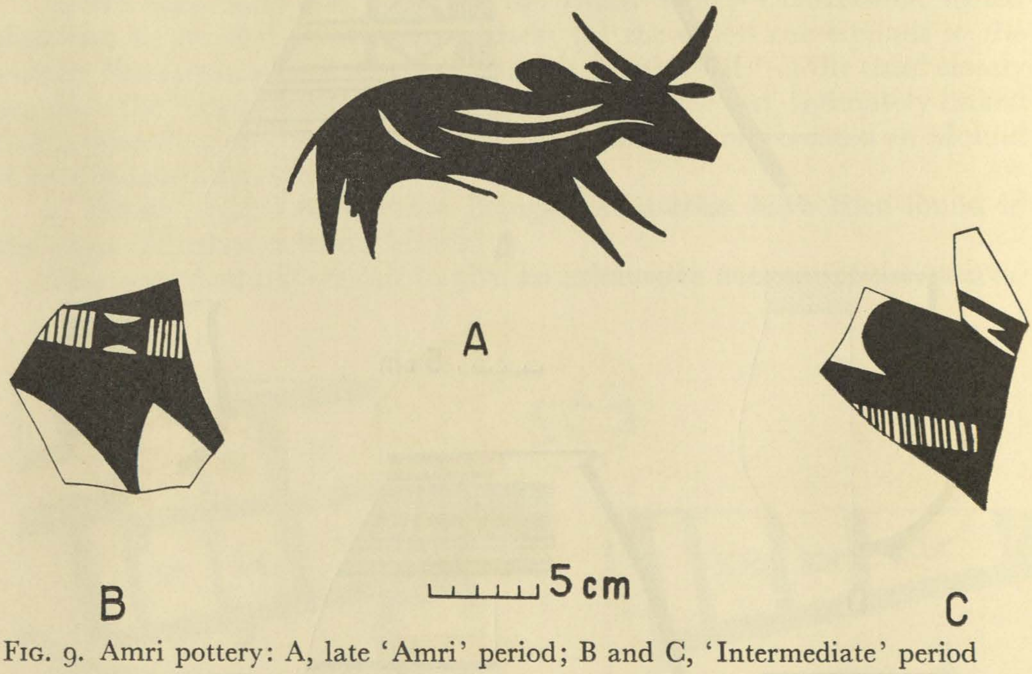


Fig. 9. Amri pottery: A, late 'Amri' period; B and C, 'Intermediate' period

ware, as described by Majumdar, wheel-turned, thin-walled, and decorated with geometric patterns painted in black or brown on a cream or pink background with the addition of plum or red bands, appears from the beginning, but then forms only a minority. The deepest layers contain a majority of cruder hand-made vessels; most of them are plain, but some are painted; in that case, the geometric design is heavily contoured, and the red colour is not only used for bands, but for fillings also (Fig. 8-A and Pl. XXIX, A).

Animal representations do not appear before the last phase of the Amri period. A good specimen which could be reconstructed shows a vivid scene of caprids with a dog (or a wolf) (Pl. XXVIII, A), but in most cases the

sherds collected give a stereotyped stylization of a bull usually painted in dirty-brown on a yellowish surface (Fig. 9-A).

As dating elements for the ceramic of the period, we have to note in the first phases a few specimens of dishes with radiating crooks first (Fig. 8-B) and broken lines later (Fig. 8-C), which suggest for the beginning of the Amri Culture a contemporaneity with Togau C. On the other hand, all along, a striking parallel with Kot Diji is noticeable. A few Kot Dijian types of pottery such as rimless vessels with a brown or red painted band on the neck (Fig. 8-D) occur from the deepest layers onwards, but the number of similarities increases at the end of the Amri Culture and during the Intermediate Period with more differentiated forms.

Another important landmark appears during the same Intermediate Period when a number of sherds show animal representations of a style alien to the Amri Culture. The elongated and striped body unmistakably reminds one of the Kulli and Sadaat styles for Baluchistan and of that of Period IV, 1, at Mundigak in Afghanistan, all of them denoting a strong Iranian influence going back to Susa II (Fig. 9-B and C).

When coming to the Indus Civilization period, a few considerations force themselves on our attention. First is the decreasing importance of the settlement. From the beginning of the Harappan phase to Jhukar times the site is never again occupied in its entirety: Harappan remains have been found only on the western portion now represented by Mound B, whereas the subsequent occupations shifted eastwards to Mound A, where relics of the late Mohenjo-daro and Jhukar periods have been restricted.

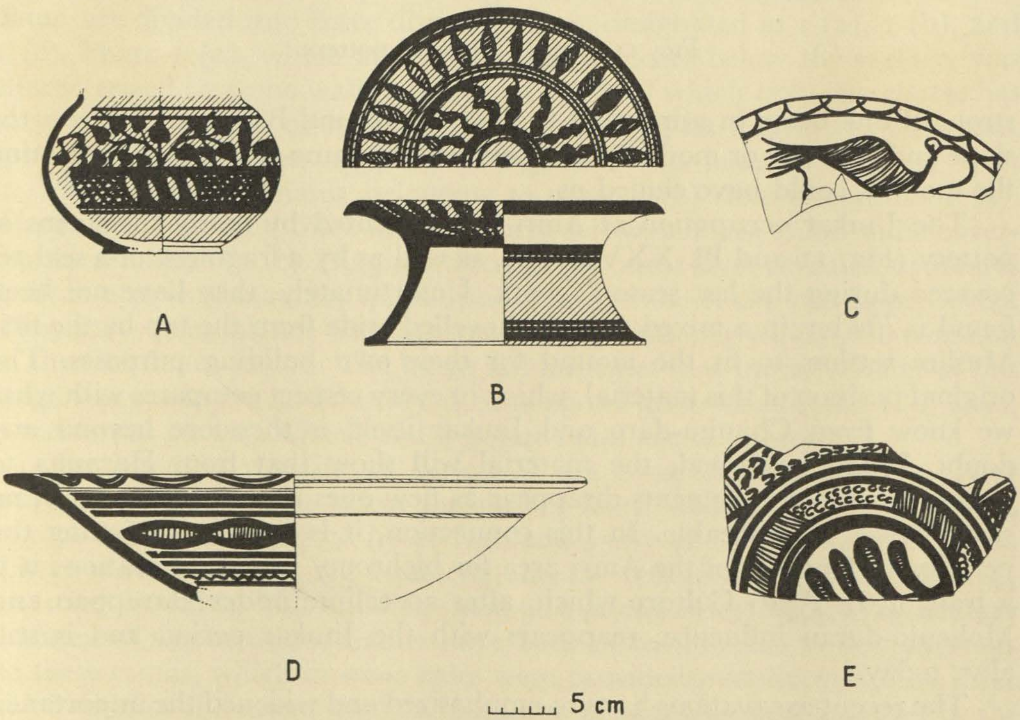


FIG. 10. Amri: variant pottery of the 'Harappa' period

On the other hand, if we admit the Intermediate Period, where the first specimens of Harappan ware appear at Amri, as one of contamination by already established centres of that civilization (which here in all likelihood means Mohenjo-daro), and if we add its building levels to those of the Harappan period, we come to a total of five building levels as a maximum. This could seem to be rather short for mud-brick structures if compared with the number of levels with burnt brick structures both at Harappa and Mohenjo-daro during the same period. But the discrepancy may not be so

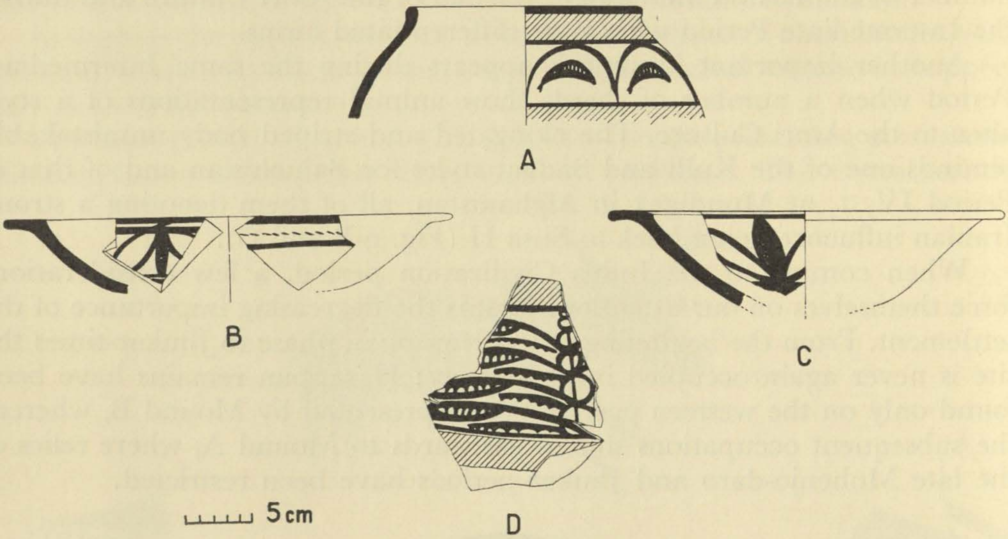


FIG. 11. Amri: 'Jhukar' pottery

strong if one bears in mind that the dig on Mound B was pitched on the slope and that one or more topmost levels of the same civilization, crowning the mound, could have eluded us.

The Jhukar occupation at Amri is represented by many specimens of pottery (Fig. 11 and Pl. XXVIII, B), as well as by a fragment of a seal recovered during the last season's work. Unfortunately, they have not been found *in situ* but in a mixed deposit shovelled aside from the top by the first Muslim settlers to fit the mound for their own building purposes. The original position of this material, which in every respect compares with what we know from Chanhu-daro and Jhukar itself, is therefore beyond any doubt. When published, the material will show that from Harappa to Jhukar some older elements disappear as new ones are introduced, but no sharp break is noticeable. In this connection, it is worth mentioning the permanent fondness of the Amri area for bichromy in pot decoration: it is a trait of the Amri Culture which, after an eclipse under Harappan and Mohenjo-daran influence, reappears with the Jhukar period and is still alive today.

The recent excavations have re-emphasized and widened the importance of Amri: its long duration, its cultural sequence with the many subtle

changes from stage to stage, and its integration of the Indus Valley Civilization with earlier and later cultures.

(ii) Excavations at Chanaka Dheri, Mardan, by the Japanese Archaeological Mission of Kyoto University

One and a half miles north of Shahbaz Garhi in the district of Mardan lies the mound of Chanaka Dheri, covering an area of 1,200 by 500 feet. It was identified by General Cunningham in 1871 with the spot where the Buddha, in one of his births as Prince Visantara, gave the estate elephant of his father to the Brahman. Hiuen Tsang visiting it in the seventh century A.D. has mentioned that the place was situated north of Po-Lusha, the ancient name of modern Shahbaz Garhi. Cunningham attempted a limited excavation here, and, as reported by A. Foucher, several coins and potsherds associated with visible structural remains were found. Of those structural remains nothing has survived.

In September 1959, a Scientific Mission of Kyoto University under the leadership of Professor S. Mizuno started excavations at Chanaka Dheri in collaboration with the Department of Archaeology with a view to uncovering monastic remains of the Buddhist period. The Mission has worked for two winter seasons and is likely to continue. Their discoveries may be reviewed as under:

Excavations at the high mound, which stands about 20 feet above the surrounding level, have revealed structural remains of different periods. The building remains in the top stratum, on the basis of floors and individual plans, are divided into three distinct phases, designated as 1 (a), 1 (b), and 1 (c). Phase 1 (a), which appeared about 9 inches below the surface, was characterized by stone walls 2 to 2½ feet thick, of which only one course has survived. A number of small objects including glass fragments, terracotta spindle whorls, lamps, and animal figurines was found associated with it. The building remains belonging to phase 1 (b) closely resemble 1 (a). They were built on a thick layer of burnt soil which was found to be covering the remains of 1 (c). Diggings through the burnt layer revealed structures built in a style of masonry quite distinct from those of the two upper levels. They show resemblance with the small diaper masonry which is so common in the Gandhara region. The burnt soil indicates that the settlement at this stage was put to fire and destroyed. Among the discoveries in the 1 (c) level, a terracotta potter's wheel, and a potter's kiln are of interest.

The building remains of Period II are conspicuously massive. They were unearthed 3½ feet below the surface level. The plan of three rooms, two of them measuring 30 by 20 feet, and 25 by 18 feet, has been exposed. These were built with big boulders, and the resultant walls were from 4½ to 10 feet in width. This building stood on a plinth 15 feet high. Fragmentary remains of wooden door-frames have been noticed in one of the entrances to these rooms, which in some cases were provided with doorways on three sides. One of the rooms contained a large rectangular bench placed in the middle and plastered with lime on top. The walls too have an unusually

thick coat of lime-plaster, still visible at a number of places. Although no regular floor surface was traceable in the rooms, the fillings of stone concrete unearthed at the level of floors suggests that these were plastered with mud. The plan of the building and the absence of cultural materials on the floors perhaps suggest its public character. Further excavation is expected to reveal its true purpose.

Deep diggings at places not occupied by structures have shown remains of yet another period. An oblong structure measuring 240 by 150 feet, has been brought to light, with thick walls, surviving to a maximum height of 30 feet. Several rooms, each containing a small niche, and arranged round a central courtyard, have been brought to light at this level and their floors exposed. The rooms appear to have remained in use for a considerable time, as indicated by the resurfacing of the floor; the top floor is paved with large stone slabs. The building presumably served a religious purpose.

A variety of small finds has been recovered; among them are, pots of spherical shape, often provided with spouts, cooking-pots, bowls, and knobbed lids of various shapes, lamps, and many sherds with stamped and incised designs. Terracotta spindle-whorls, beads, fragments of a censer, terracotta figurines of buffalo, bull, sheep, horse, and birds are also present. Glass bangle fragments of dark colour are extraordinarily numerous; and there are shell bangles, iron nails, chains, knife blades, and beads of semi-precious stones.

(iii) Excavations in Swat by the Italian Archaeological Mission

Through the ages, West Pakistan has been a meeting-place of East and West, and a centre of cultural diffusion. 'The extreme limit of the Occident', as Professor Giuseppe Tucci, the distinguished Italian orientalist, states, 'has been the Indus River.' It was therefore natural for Professor Tucci to be interested in the development of archaeological research in this area. In 1955 he organized an expedition sponsored by the Italian Institute of the Middle and Far East to explore and excavate in Swat, the ancient land of Udayana occasionally referred to by Tibetan scholars, and a lively scene of cultural interaction in the dawn of history. In particular, innumerable remains of Buddhist establishments are dotted along the slopes and valleys adjoining the Swat river, and attest its former importance as an international centre.

After extensive preliminary exploration of the countryside in Upper, Middle, and Lower Swat by the Mission and the Department of Archaeology, two promising sites, Mingora and Udegram, were selected for large-scale excavation. So far, the work has been carried on for six successive seasons, and has yielded valuable evidence in regard to the Buddhist period of Pakistan. It has brought to light thousands of fine specimens of Gandhara art from stratified layers which can be arranged chronologically and show the successive stages of development and evolution. At the same time other finds from a large necropolis, anterior to the Buddhist period, and excava-

tion at Udegram on a town-site which existed at the time of Alexander, have been remarkably informative.

At Mingora, identified with Meng-chie-li of Hiuen Tsang, the digging took place in a locality called Butkara, uncovering a large and imposing central stupa surrounded by more than 200 minor stupas. Here more than 7,000 pieces of sculptured slabs and panels of Gandhara art carved in green schist, depicting the life-stories of the Buddha, have been discovered. They originally embellished the plinths of the stupas, and some of them were found still in position. In several of the minor stupas, relic-caskets, intact with the inner golden container, have been recovered. There is some evidence of destruction of these monuments by a disastrous flood, probably in the third century A.D. The excavated remains have been identified with the monastery of 'Talo' mentioned by the Chinese pilgrim Song-Yun, who recorded that it was one of the largest and richest of all Buddhist establishments and contained 6,000 gilded statues.

The imposing collection from Mingora is not only well stratified but is also associated with datable finds from the relic caskets and with coins, so that to much of it an absolute dating can be ascribed. In one way and another, our knowledge of the Gandhara region has been greatly enriched.

Udegram, the 'Ora' of the Greeks, was the leading city of these parts at the time of the invasion of Alexander. The excavation at this site during the last five seasons took place at three different points: (a) in the ancient town lying at the foot of the mountain; (b) on the 'Castle', the high and formidable citadel built on a spur of rock overlooking the city below and dominating the whole valley; and (c) in the Gogdara zone. The settlement at the last-named place seems to be the oldest, as attested by rock carvings.

These last consist of rudimentary engraved animals. Excavations in this area have brought to light a number of layers associated with structural remains and cultural material. The lowest layer, which is certainly pre-Asokan in date, yielded incised black pottery and some obsidian objects. A fragment of local pottery was discovered in this level with Greek letters inscribed on it, which palaeographically can be ascribed to the end of the fifth and beginning of the fourth century B.C.

Within the Udegram town-site, the flat zone bordering the present road to Saidu-Sharif was excavated. Here a considerable area of the ancient town was uncovered, with a network of streets and lanes and blocks of habitations, associated with abundant objects of everyday use. There were seven occupation-levels, marked by rebuilding-phases and new orientations of the streets. The houses in general were built on a uniform plan, with a small entrance opening into a courtyard serving the residential portions. In some cases wooden structures were traceable. Along the streets were rows of single rooms of elongated rectangular plan which were most probably shops. From this fact this area is called the 'bazaar'. The ceramic material recovered from the latest levels of this area corresponds with that from the lowest layers of the third area of excavation, that is, the 'Castle'. Destructions of the town and the bazaar of Udegram seem to have been caused by natural events, particularly by frequent floods. The evidence of a number

of coins, minor objects and rich ceramic material indicates that life in this quarter of the city started in about the fourth century B.C. and lasted to the fourth century A.D.

At the end of this period, new devastations and increasing insecurity caused a retreat towards the mountain that rises to the east. On the slope of this mountain there is a rocky pyramidal spur, covered with remains of a number of structures of considerable interest. They seem to represent a sort of Acropolis. Eighteen layers have been recorded here, associated with structural remains and a large number of useful finds such as coins and pottery which help to fix the date of these levels in fairly close chronological brackets. The successive enlargements of this settlement started in the middle of the fourth century A.D., after the inhabitants had abandoned the lower city. Much construction on this hill is assigned to the seventh to tenth century A.D., and a spectacular staircase may have been constructed in the tenth century. Mahmood of Ghazni's conquest of the place is attested by the discovery of his coins and the presence of glazed pottery. Afterwards another destruction may be placed in the thirteenth and fourteenth centuries.

A large number of coins have been recovered from different levels of the site. It appears that Swat came under the domination of the big empires on its borders, and that after Alexander's invasions, it remained under the influence of the Indo-Greeks, Sakas, Parthians, and Kushans, until the invasion of Mahmood of Ghazni, who conquered and enlarged the citadel.

The rich material recovered from these excavations will help significantly in the reconstruction of the history of north-western Pakistan. The stucco, terracotta, and stone sculptures and other minor works of art should certainly make a noteworthy contribution to the much-needed classification of Gandhara art. Reports on these excavations are in process of publication. The first two volumes are as follows:

Vol. I: *Reports on the Campaigns 1956–58 in Swat (Pakistan).*
D. Faccenna, *Mingora: Site of Butkara I.*
G. Gullini, *Udegram.*

Vol. II, 2: D. Faccenna, *Sculptures from the Sacred Area of Butkara I (Swat, Pakistan).*
Plates I–CCCXXXV.
Published at Rome by the Istituto Italiano par il Medio ed Estremo Oriente, 1962.

IV

THE RESTORATION OF THE KANISHKA CASKET

by

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THIS famous casket was excavated in 1908 at Shah-ji-ki-Dheri, Peshawar, and was described by D. B. Spooner in a *Report of the Archaeological Survey of India*, 1908–9, which included photographs showing the appearance of the casket after it was first cleaned by the excavator. The present article will describe the condition of the casket when it was received from the Peshawar Museum by the British Museum Research Laboratory and the method used in its restoration, together with an account of certain technical features of the object (Pl. XXX, and Fig. 12).

THE CONDITION OF THE CASKET

As a result of corrosion while the casket was buried, the lid had become firmly attached to the body of the casket by corrosion products. It was also found that the central seated Buddha on the lid had been forced down by a blow and lay at an angle. Also, as a result of this blow, an area in the centre of the lid was cracked and distorted and fragments of the metal were missing.

On either side of the Buddha were figures of Brahma and Indra, the bases of which had been drilled and tapped so that they were now fixed to the lid by small, modern, steel, machine-made screws. Originally these figures had been secured to the lid with tenons riveted over, but the report referred to above shows that they had become separated from the lid in antiquity. The tenons are now much too loose to be serviceable except as locating pins. However, the threads of the modern screws were very fine and they were no longer capable of holding the figures securely.

The circular grooved disc, which had served as the base plate of the casket, had been separated from the body of the casket. A small segment had been broken away and was in two fragments. This base plate could not have been cleaned by the excavator as was the case with the casket. It was still mineralized on both surfaces, areas of thin cuprite being present, and

a considerable amount of internal corrosion was apparent in the surfaces exposed by the fracture. The grooved underside of the disc carried fragments of textile embedded in the cuprite. Around the perimeter of the inner side of the disc there was an annulus of grey material indicating the presence of a layer of soft solder which had been originally used for attaching the base plate to the body of the casket. There was no corresponding layer of solder on the mating surface of the bottom of the casket, which had, however, been well rubbed. It was clear, however, that the two portions had been made at the same time because, although neither mating surface was truly circular or flat, it was possible to find one position in which they fitted together exactly.

In addition to these two main components of the casket, there were three fragments of a halo which the excavator had reported as having been found near the foot of the casket. This halo was of a suitable size to fit the figure of the Buddha, but there was no indication of the manner in which it had been attached, nor, indeed, any evidence to suggest that it had ever been fitted in position.

Cleaning and Restoration

A careful preliminary examination of the casket failed to reveal any trace of gilding, although the excavator had reported that it was 'almost certain to have been gilded originally'; nor was there any trace of inlay. This examination was a necessary prerequisite to treatment because the presence of either gilding or inlay would have restricted the choice of methods to be used in the subsequent cleaning. The bronze was considerably mineralized in a non-uniform manner, and parts of the inscription round the body of the casket were scarcely visible. In order to discover the true condition of the metal, the casket was physically cleaned with a glass bristle brush to remove surface dirt. Still, no trace of gilding was exposed, but it became evident that much of the mineralized metal had been reconverted to metallic copper either as a result of conditions prevailing during burial, or, more probably, as a result of the method used in the original cleaning.

In order to stabilize the mineralized metal, some of which formed the shape of the decoration, the complex of casket and lid was submitted to cathodic reduction in dilute alkaline solution at a low current density.[1] Care was taken to ensure that none of the surface was shielded from the reaction by the accumulation of gas bubbles. After 10 days of this treatment, the complex of casket and lid was washed in hot distilled water and treated in an ultrasonic field at a frequency of 40 kc/s in order to remove loosened material. For the following two months, the complex was subjected to the technique of intensive washing[2] until measurements of the electrical conductivity of the wash water indicated that the metal had been washed com-

1. H. J. P. Plenderleith, *The Conservation of Antiquities & Works of Art*, Oxford University Press (1956), 199–196.

2. R. M. Organ, *Museums Journal*, LV (1955), 114.

pletely free from soluble salts. At intervals during this washing procedure, ultrasonic treatment was applied to accelerate the process.[1]

Following one of these treatments, it was found that the lid had become sufficiently loose to enable it to be eased gently away from the body of the casket. This delicate operation was an important stage in the restoration of the casket, and was successfully achieved with the minimum of damage. In one area of the lid, where the metal was very thin and had already been distorted and had corroded on to the lip of the casket, two small fragments of bronze became detached. These were retained and subsequently refitted in position using a special epoxy synthetic resin (Araldite G.P.).

When the process of intensive washing had been completed, the casket and lid were thoroughly dried at 90°C for 24 hours and then kept for several days at 25–40% relative humidity whilst the surface was being glass-brushed. This protracted period of drying was considered necessary because the surface was extremely porous and access of moisture had to be excluded prior to lacquering.

The next problem to be faced in the restoration was to devise a method of straightening the figure of the Buddha (Fig. 12). One side of its base had been driven down into the inside of the lid as the result of a blow, and it was decided to reverse this process in order to repair the damage. For this purpose, a strong cardboard cylinder, 3 inches in diameter and of height greater than that of the figure of the Buddha was placed on the outside of the lid, and a loose-fitting wooden former was inserted inside the lid (as shown in the accompanying diagram) so that it could be pressed against the damaged area of the lid. By the careful application of a steadily increasing pressure by means of a large vice it was thus possible to bring the figure of the Buddha back into its original position perpendicular to the plane of the lid. The distorted metal of the lid in this area was then eased into place so that the cracks were closed. A fragment of the metal was reinserted and the area strengthened by cementing the cracks with an epoxy resin adhesive, a little copper powder being incorporated as a filler where necessary. The cracked surfaces had previously been thoroughly cleaned with a glass-bristle brush so that there would be no oxide present to impede the satisfactory joining of the surfaces. There was one small gap still left for which no fragment of metal was available. Finally, the new surfaces of the repair were toned down in colour to match the bronze, and the casket was lacquered with a special cellulose nitrate lacquer.[2] This stage of the work was carried out in the laboratory workshop by Mr. B. A. Nimmo.

The two Bodhisattvas were cleaned in a manner identical with that used for the casket and, after lacquering, were refitted to the lid with new brass screws. The holes, already tapped in their bases, were retapped with a coarser thread in order to make a more secure fitting.

The final stage in the restoration was the cleaning of the base plate. The method used differed from that employed for the casket. The reason for

1. R. M. Organ, *Studies in Conservation*, IV (1959), 35.

2. Ercalene, obtainable from Messrs. W. Canning & Co. Ltd., Great Hampton St., Birmingham 18, England.

this was that the under-surface of the base plate had fragments of textile adhering to its mineralized surface which it was necessary to preserve *in situ*. These fragments had no strength of their own and would have lost their archaeological significance if any attempt were made to consolidate them and remove them. Also, the ring of solder remaining on the inside

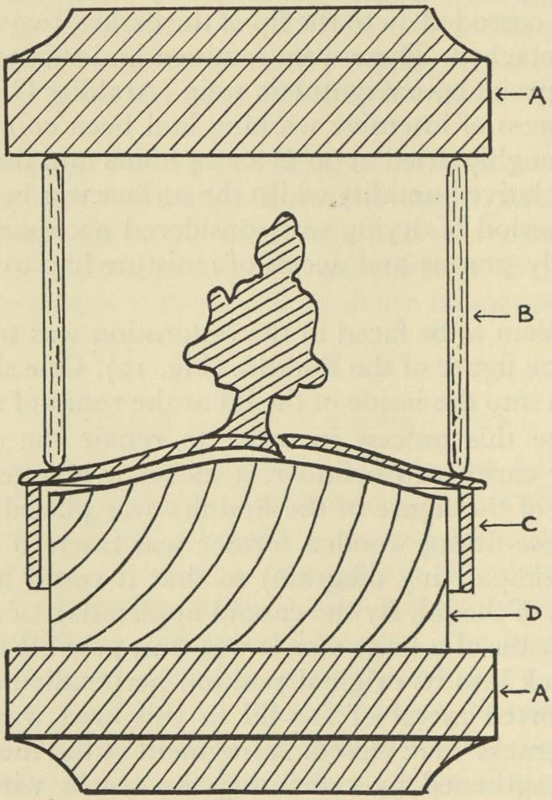


FIG. 12. Repair of the Kanishka casket

of the plate might have been partly removed if the base plate were subjected to chemical treatment. In view of these considerations, together with the fact that the metal, although considerably mineralized, appeared to be reasonably stable, it was decided to restrict the treatment of the base plate to mechanical cleaning with a glass bristle brush. In addition, the two loose fragments from the base plate were refitted with an epoxy resin. The plate was then thoroughly dried and lacquered, and cemented to the casket with cellulose nitrate. This adhesive was chosen because it can be readily removed with acetone should it be desired to examine the remains of the solder on the plate at any future date. Similarly, treatment of the fragments of the

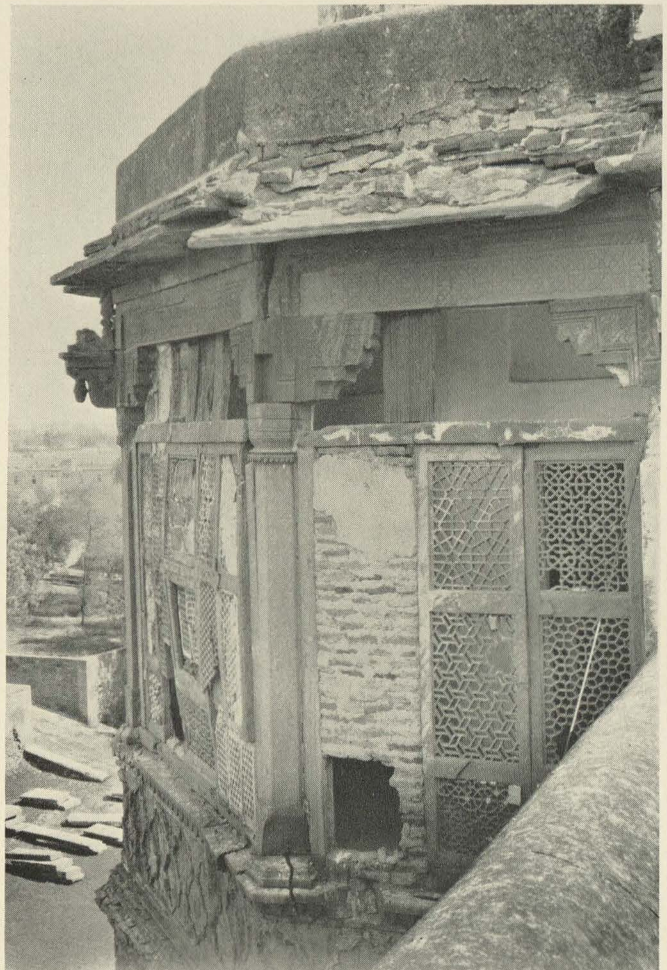
Plate XXX

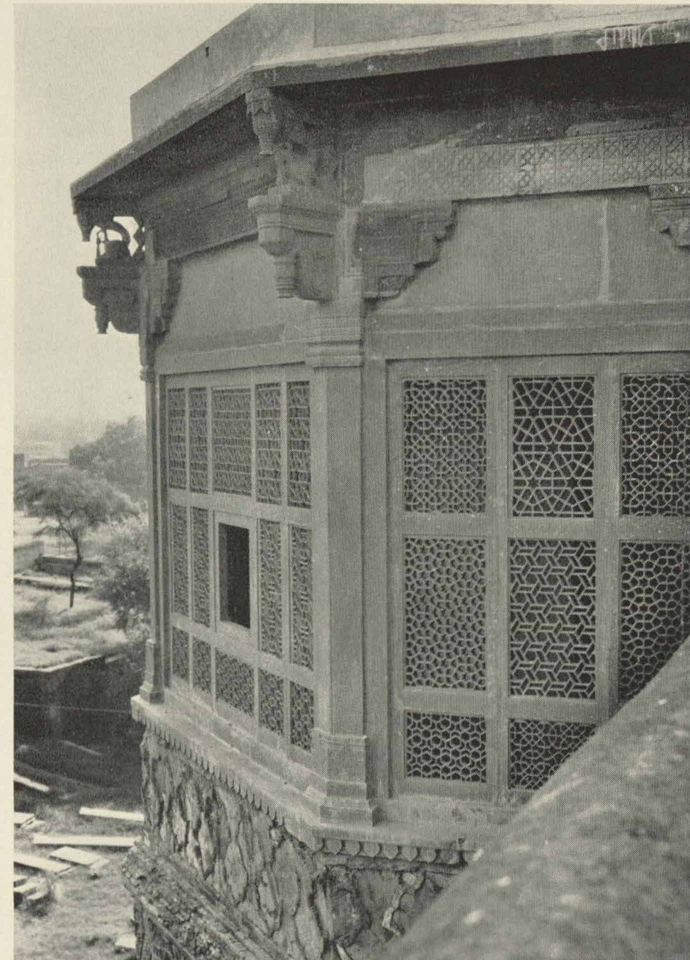


A B

The Kanishka casket from Peshawar, before and after cleaning and repair by the British Museum

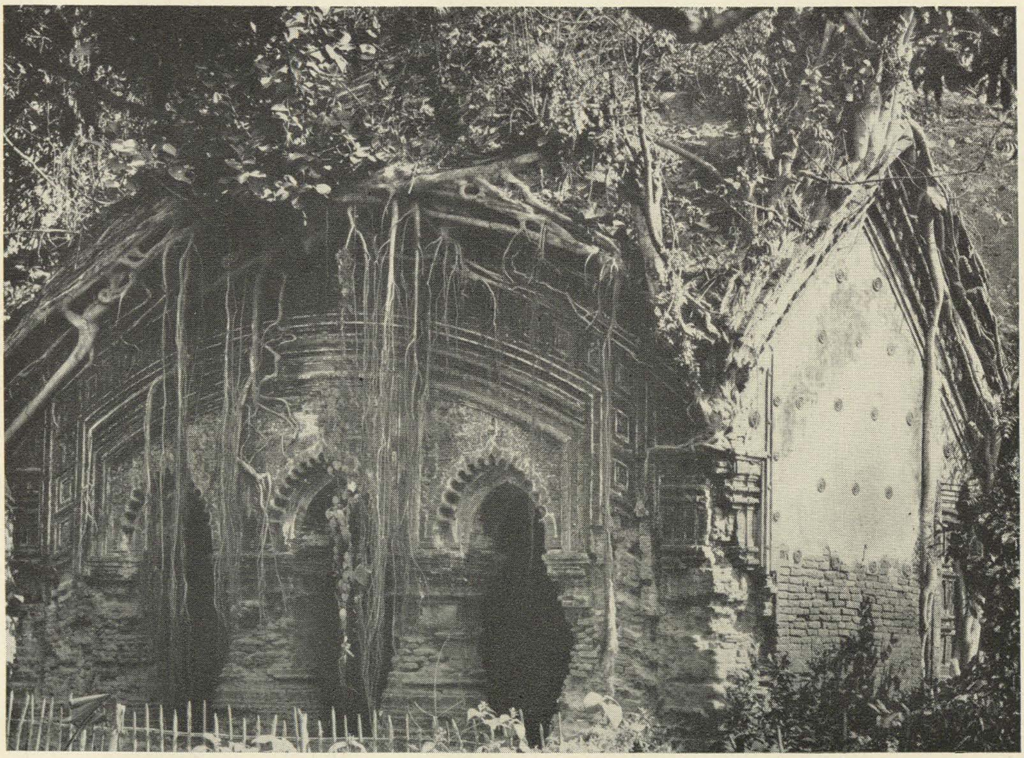
CONSERVATION

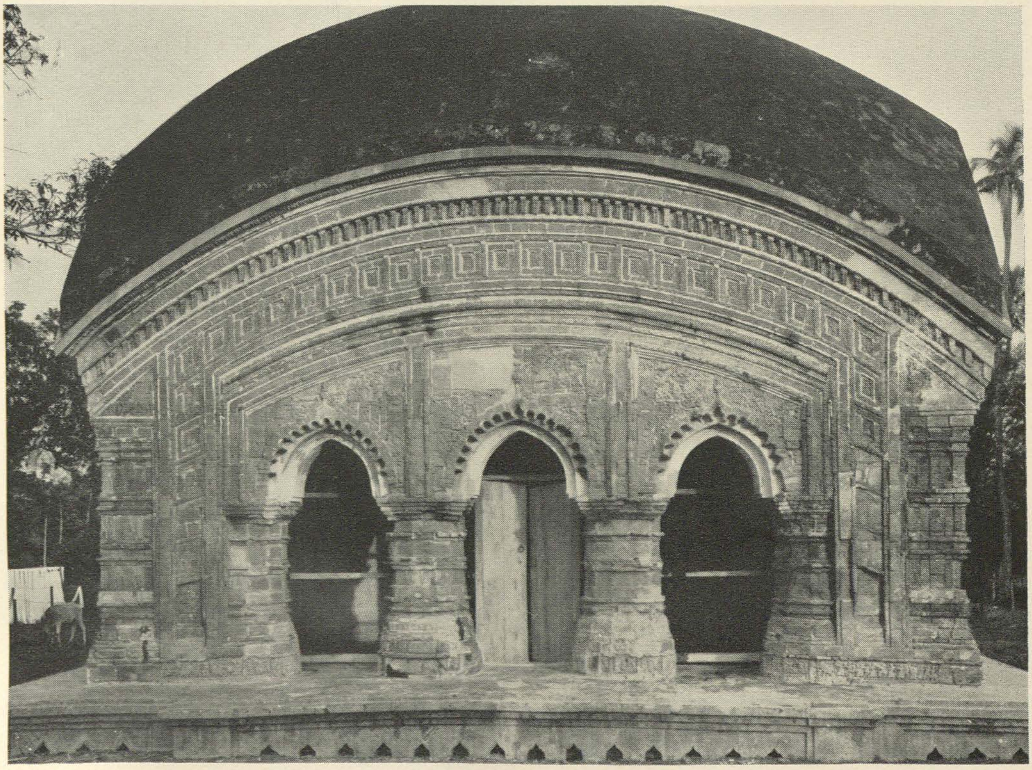




Lahore Fort: the north-western *burj* (tower), of the time of Jahangir, before and after repair

CONSERVATION





Late seventeenth or eighteenth century temple at Handiyal in the Pabna District, East Pakistan, showing the building before and after repair

halo was also restricted to glass brushing, after which the three fragments were joined with soft solder, using a non-corrosive flux, dried and lacquered. The repaired halo was then fixed to the head of the Buddha with cellulose nitrate.

There was now only one thing that remained to be done and that was to devise a method for protecting the base plate. Since the base plate was slightly convex and weakened by corrosion, there was a risk that it might crack under the considerable weight of the casket applied to its centre, and there was also a risk that the fragments of textile might be rubbed off the bottom. For these reasons it was decided to make an annulus of thin Perspex which would fit the base plate and would raise the centre of the base plate several millimetres above any flat surface upon which the casket might be placed. The condition of the casket after restoration is shown in Pl. XXX, B.

The Inscription

As already noted, parts of the inscription were very difficult to read, and therefore a careful examination of it was undertaken. It had been punched into the metal in a series of faint dots, like the writing of the famous Taxila plate, but in several areas additional marks were present as a result of pitting-corrosion, and these tended to be confused with the dots of the inscription. When the inscription was examined at a magnification of 20× it was possible to distinguish between the dots which were clearly and unequivocally made by a punch and the marks due to corrosion pitting. The former were marked with a filling of white water-colour. By this means it was now possible to reveal several *aksharas* which had previously been masked by groups of corrosion pits.

Technical Examination

An analysis of the metal of the casket was given in the report already mentioned, so the present examination was carried out in order to obtain information about the techniques employed in the construction of the components. The results were as follows:

(i) The Base Plate

This was cast and the decorative rings then turned using a lathe. This is evident from the presence of chatter-marks from the tool which are visible on one of these rings. Another of the rings was deepened by means of a tracing tool, and yet another was 'hatched' with a punch as enrichment. The plate was then hammered round its edge to make a close fit to the casket, the edge smoothed down and edged to the slightly eccentric contour of the body. The mating surface was then tinned, and the joint to the body made by soft-soldering.

(ii) The Body of the Casket

This was cast, the detail chased and the inscription punched in. The inside was scraped clean in preparation for tinning before fitting the base

plate. The lip, necessary to accept the lid, was turned approximately true and cut back to the right dimensions. Chatter-marks made by the tool are still visible.

(iii) The Lid

This was cast in one piece with the Buddha. The inside was left rough except for the rim, which was scraped down to fit the lip of the casket. A setting-out circle was inscribed round the top of the lid but was not adhered to precisely when tracing the decoration. The inscription was punched and the details of the Buddha were traced. A flat was formed on the back of the head of the Buddha presumably to accept the halo, but there was no trace remaining of soft solder or of any other means of fixing it.

(iv) The Halo

This was made simply by tracing on sheet metal. When received, it had a slightly golden sheen which might have been due to the presence of gilding at some time. A fragment was examined spectrographically and found to consist mainly of copper with small amounts of tin and lead and a trace of zinc. Gold was not detected. It was found impossible to locate the halo comfortably against the head in any plausible position. It must therefore be regarded as a matter of conjecture as to whether or not the halo was ever actually fitted in position.

(v) The Supporting Figures of Brahma and Indra

These supporting figures were separately cast, complete with halo, and riveted in position. The metal of which they are cast appears to differ somewhat in composition from that of the lid, for the Bodhisattvas have withstood a similarly corrosive environment rather better than the lid.

V

THE NATIONAL MUSEUM OF PAKISTAN

ITS INAUGURATION

Soon after Independence, it was widely appreciated that the great cultural heritage of Pakistan, so far as its movable relics were concerned, was scattered often inaccessibly in local museums of inadequate scope, in private collections, or in unrecorded godowns. There was no institution in Pakistan where the public and the student could obtain anything approaching a general conspectus of the development of civilization in this area during the many thousands of years in which man had lived here. There was also no central institution which could organize and correlate the museum-service of the country, set an international standard of visual education, and adequately represent prehistoric and historic Pakistan both to the Pakistanis themselves and to the world at large.

This was a great gap in the educational equipment of Pakistan. The need for a national collection on a scale commensurate with the prestige of Pakistan, and the quality of the cultural achievements to which the new State was heir, was manifest.

Accordingly, in 1948 a committee of experts was appointed under the chairmanship of Mr. H. S. Suhrawardy with the then Director of Archaeology as its Secretary. The Committee held several meetings and it was decided to set up a National Museum where the arts and archaeology of Pakistan could be represented in a suitable manner and efforts made to develop a living centre of Pakistani culture.

A review of the resources and available assets of Pakistan in the sphere of archaeology and art led the Committee to the view that the proposed National Museum should be organized on the widest possible chronological plan, embracing tangible remains of all stages in the progress of human civilization available on the soil now comprised in Pakistan. The committee, therefore, decided that the Museum should cover exhibits of all periods of antiquity from the Stone Age down to the nineteenth century A.D., as follows:

A. The Stone Age, Palaeolithic and later.

B. *c.* 2500 B.C.–1700 B.C.

The Chalcolithic period represented by the antiquities of the

prehistoric civilization represented by such sites as Harappa, Mohenjo-daro, Chanhu-daro, and others.

C. *c.* 1700–700 B.C.
The formative period of Vedic-Aryan culture.

D. 700 B.C.–A.D. 600.
The period of Persian, Mauryan, Indo-Greek, Indo-Scythian, Indo-Parthian, Kushan and Gupta ascendency, evidenced by the finds recovered from Taxila, the Yusufzai tract, the Salt Range, Sind, Baluchistan, and elsewhere.

E. A.D. 600–1191.
The period of Buddhist decline and Brahmanic and Jaina revival and decay in the West Pakistan region.

F. A.D. 600–1191.
The period of the growth and decline of the religious and folk art of East Pakistan under Buddhist and Brahmanic direction.

G. A.D. 1191–1526.
The period of pre-Moghal Muslim ascendency at Delhi, in the Punjab, Sind, Bengal and other Muslim centres.

H. A.D. 1526–1857.
The period of the rise and decline of the Moghul rule and the establishment of independent local dynasties in Sind, Bengal, Oudh, and Hyderabad.

I. Precious jewellery and coins of all periods.

J. Epigraphical records on stone and metal of all periods.

To display the materials of these various periods, it was proposed to establish separate galleries where they could be arranged in a chronological order. But due to financial stringency, it was at that time very difficult to establish a new building for the Museum. On the advice of Sir Mortimer Wheeler, then Archaeological Adviser to the Government of Pakistan, it was therefore decided that the Museum should be housed in the Frere Hall, which was centrally located in Karachi with a well-laid-out garden (Pl. XXXIII). The hall was, however, then in a neglected state, a storehouse for the junk of a defunct Victoria Museum, and packed from wall to wall with dusty cases and decayed stuffed animals. The task of setting the place in order and establishing the National Museum was entrusted to Mr. S. A. Naqvi, who, with an intermission of two and a half years, has since then been its Superintendent in charge.

The work began late in 1949, and after months of hard and continuous labour the junk-house was cleared. The next step was to collect and select the material for display as the Museum was starting from scratch with very little available. The different museums in the country were accordingly approached to lend exhibits to the new National Museum. The response was favourable and the following museums supplied the material for display:

1. The Peshawar Museum, Peshawar.
2. The Central Museum, Lahore.

3. The Armoury Museum, Old Fort, Lahore.
4. The Archaeological Museum, Taxila.
5. The Archaeological Museum, Mohenjo-daro.
6. The Archaeological Museum, Harappa.
7. The West Pakistan Circle of the Department of Archaeology, Lahore.
8. The East Pakistan Circle of the Department of Archaeology, Dacca.
9. The Archaeological Museum, Paharpur.
10. The Varendra Research Society Museum, Rajshahi.

With the co-operation of these institutions, it was possible to make a useful beginning. The Peshawar Museum and Taxila supplied most of the Gandhara Section; the Central Museum, Lahore, also sent Gandhara sculptures, together with miniature paintings; the Varendra Research Society Museum lent some Hindu sculptures; and the archaeological site-museums spared antiquities from their collections relating to the Indus Valley Civilization and the Buddhist period. The material of the Muslim and later periods was collected from other sources. The archaic show-cases of the defunct Victoria Museum were utilized for display after some alterations and modifications. The actual work of display and arrangement took about six months and the Museum was formally declared open by Khwaja Nazimuddin, then Governor-General of Pakistan, on the 17th April, 1950.

The speeches made on that occasion were as follows:

Address of Welcome by the Hon'ble Mr. Fazlur Rahman, Minister for Education, Govt. of Pakistan

Your Excellency, Mr. Prime Minister, Ladies and Gentlemen,

In consenting to perform the opening ceremony of the National Museum of Pakistan, Your Excellency has done us a great honour of which we are deeply appreciative. It is in the fitness of things that the head of our State should be associated with a venture of national importance which is symbolized by this Museum. Pakistan has a priceless cultural heritage going far back into prehistory and we are legitimately proud of those ancient and deservedly world-famous archaeological sites like Taxila, Harappa, and Mohenjo-daro which silently but nonetheless eloquently proclaim the existence of ancient cultures which have left their indelible impress on world-history in general and our own history in particular. Our Islamic culture is also represented by its architecture and its arts and crafts. The preservation of this cultural heritage is one of our foremost duties and, despite the inadequacy of funds and trained personnel, it is my constant endeavour to ensure that the archaeological wealth of Pakistan is exploited on scientific lines to the fullest extent possible. For this purpose our Archaeological Adviser, Dr. R. E. Mortimer Wheeler, has already started a training school at Mohenjo-daro for training the staff of the Archaeological Department and students of our universities in the techniques of excavation and conservation. His efforts have already yielded valuable results in as much as excavations have revealed fresh facts relating to the Indus Valley Civilization which flourished in West Pakistan 4,000 years ago.

This National Museum is only a beginning, but in my view a very important beginning, because here for the first time is displayed a unique and representative collection of our antiquities which will give visitors an idea of our cultural past. We are anxious to develop this Museum and I hope that very soon, with the co-operation of the public, we shall have a comprehensive section dealing with Islamic Art.

I take this opportunity of thanking the Archaeological Adviser, Dr. Mortimer Wheeler, and his staff for much painstaking effort. But for them, this Museum would not have come into being so soon.

I now request Your Excellency to declare the National Museum of Pakistan formally open.

Inaugural Speech by His Excellency the Governor-General of Pakistan

Your Excellencies, Ladies and Gentlemen,

It gives me very great pleasure to perform the opening ceremony of the National Museum of Pakistan. This event is of no ordinary importance. It marks a stage forward in the equipment of Pakistan with the educational and cultural facilities which a modern State requires. Every modern State has its National Museum, and for very good reasons. Such a museum, properly planned and equipped, provides a conspectus of a nation's cultural achievement. In the case of a relatively new State such as ours, the establishment of a National Museum is doubly necessary, and I should like in my opening remarks to make clear the dual function which our new Museum is intended to serve.

1. Its first function is to educate Pakistanis about their own country, about its history, its prehistory, its traditions. This is, of course, a comprehensive function which must be incorporated in many branches of our education, but a National Museum can vividly illustrate much that we are taught—or should be taught—in our schools and universities, and thus clothe with reality what would otherwise be abstract and unreal. For example we read that in the great Moghul period the Islamic craftsmanship of this country was, of its kind, unsurpassed. But when we see those two beautiful carved doorways downstairs, recovered from quite ordinary houses in Lahore dating from the time of Akbar the Great, we begin to realize the degree to which this craftsmanship penetrated from the palace to the bazaar and entered freely into the daily life of the period. Or we hear of the great influence which Persian craftsmanship exerted upon the arts and crafts of its neighbour West Pakistan; and we find in some of the exhibition-cases in this room examples of the glazed and coloured pottery and tilework which are still produced in Sind in adaptation of the Persian manner. Here is an honourable tradition still alive in our midst, and one which will, I hope, withstand the onslaughts of impersonal industrialism for many years to come.

2. These are but two instances of the manner in which a National Museum can illustrate our history and achievements. There are many

others, but I will mention only one more. Recently our Pakistan Railways have been running excursions, which are reported to me to have been highly successful, from the federal capital to a little remote place in the interior of Sind. The objective of these excursions was a series of partly excavated mounds, long known as Mohenjo-daro or the 'Mound of the Dead' but at one time, more than 4,000 years ago, a highly important city of the living. Since its discovery in 1922, Mohenjo-daro and the great Indus Valley Civilization which it represents, have become world-famous. Wherever the civilizations of the past are studied, wherever history and prehistory of any kind are properly taught, those remote mounds and all that they stand for, are as familiar as are the famous relics of Egypt or of Mesopotamia. Indeed, with the ancient civilizations of the Nile and the Euphrates, that of the Indus now ranks as one of the great epochs of the ancient world. It is a source of pride to us that almost the whole of that Indus Civilization lies within our own borders. From the Arabian Sea to the Himalayas, a distance of 1,000 miles, this great civilization once dominated our countryside, so that, as we walk today down the silent streets and lanes of this astounding city of the past, we can fairly claim that we are wandering in the metropolis of a prehistoric prototype of our own busy West Pakistan. I only hope that in the future our Department of Archaeology, which has recently so successfully renewed the exploration of Mohenjo-daro will extend its efforts into East Pakistan with equally satisfactory results. There, in Rajshahi, we already have the excavated remains of the largest Buddhist monastery south of the Himalayas, and this Museum contains a series of remarkable sculptures found there. But the past cultures and civilizations of East Pakistan remain substantially unexplored and invite the urgent attention of Pakistan scholars and explorers. Meanwhile we have, on the ground floor of this National Museum, a superb collection of objects representing the Indus Civilization, a collection which has much in it that will appeal to the average spectator, and which all students of old civilizations will have to visit and study.

3. The second main function of our new Museum is to present a selective picture of the cultural achievements of Pakistan to the world at large. Nowadays vast numbers of visitors flock to our capital from all parts of the world, and many of them will in future undoubtedly spend spare moments in this building in the examination of our material and cultural heritage. A visit to the National Museum or museums is normally included in our visits to foreign capitals, and, to say the least, it is our duty here in Karachi to provide similar facilities for our guests.

4. I now turn to other aspects of our new venture, and the first point I want to emphasize is that our Museum in its present form is merely a *beginning*. I have spoken of some of the things which it contains, but I could say more of the many important things which it does not yet contain. Neither the Honourable Minister for Education and Commerce nor his archaeological staff is satisfied that our National Museum is, in its present rudimentary stage, adequately representative. The opening of our Museum is a challenge to our own efforts and to those of the friends of Pakistan. As

the Honourable Mr. Fazlur Rahman says in the short 'Guide' which has been placed in your hands, 'the opening of this National Museum is an important educational landmark but it only marks a tentative beginning. An institution of this kind and complexity cannot be created merely by a Minister of Education or a few hard worked officials.' I endorse these words and do not hesitate to appeal to the public for the fullest co-operation in the enlargement of our national collections in such a manner as to make them truly comprehensive of the range and quality of our antiquities and our craftsmanship. Let us combine to fill the gaps and, above all, let us build up an Islamic Department in the Museum which will suitably represent the culture upon which our new State is based. The discriminating public can help in this; but in making the appeal I would emphasize the word 'discriminating'. We want only the *best*. Above all, we do not want to parade *indifferent* material either before our own eyes or those of our guests.

5. Another matter, at which I have already hinted in my opening remarks, is the educational use of the Museum. I hope that it will be found possible to make the Museum an active educational instrument by means of lectures to the general public and, above all, to schools and colleges. A National Museum as I see it is not merely an elaborate storehouse or godown. It is something much more than that. It is a centre of research. Students are given facilities for working in it. School-children and their teachers are given suitable instruction in it. Regular lectures are given in it to the public by lecturers properly trained for their work. The Museum is a place to be used, not merely a place for idle curiosity or a shelter from the sun. A modern museum is, or should be, a dynamic and not a static institution.

6. In connection with the stimulation of public interest in museums and in all they stand for, I am glad to learn that Pakistan has recently established a Pakistan Museums Association. I hope that this new association will be wisely directed and will meet with success both as a means of developing the museums of the country and as a link between them and the general public. It is an unofficial body but will, I trust, be found worthy of all possible and appropriate support from all sources. The establishment of a National Museum may be expected to serve as a focus for its efforts.

7. Ladies and Gentlemen, I have now great pleasure in declaring the National Museum of Pakistan open. I wish its future to be one of ever-increasing and rapid growth so that it may soon be classed among the best museums of the world.

Thanks to H.E. the Governor-General of Pakistan, proposed by Dr. (Sir) Mortimer Wheeler, Archaeological Adviser to the Government of Pakistan

Your Excellency,

As Archaeological Adviser to the Government, I have been entrusted with the honourable and pleasant task of thanking your Excellency for



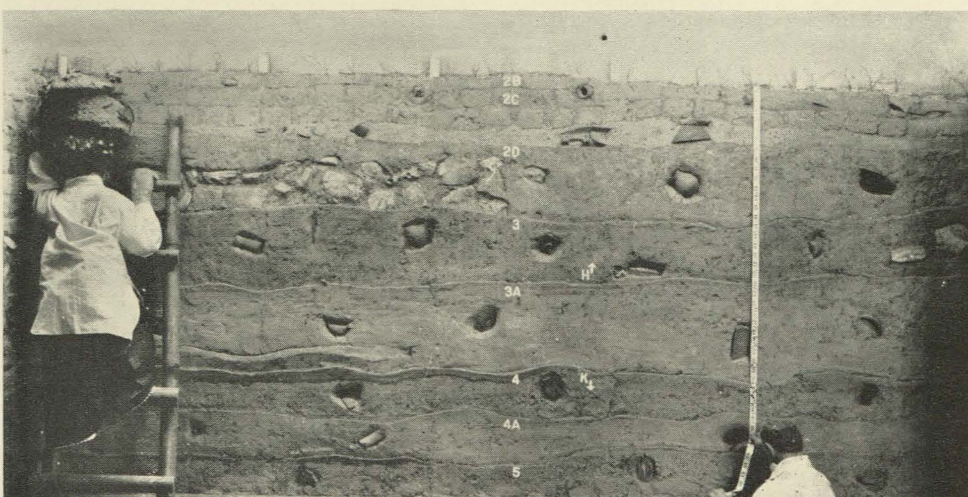
The National Museum of Pakistan, temporarily in the Frere Hall, Karachi

(A notable example of 19th century Gothic architecture, dated 1865)

Plate XXXIV



A. Moghul textiles on display in the Islam Gallery of the National Museum



B. An excavation—section on display in the National Museum

coming here this afternoon. But I should be less than human if I did not snatch the opportunity to add a few, very few, words in amplification of some that have already been spoken.

First, in his opening remarks the Honourable Minister for Education referred to me, as indeed I have myself, as the *Archaeological Adviser*. That if I may say so, in the presence of the Diplomatic Corps, is a diplomatic statement rather than the exact truth. For let me say at once that the Minister is *himself* the real Archaeological Adviser. It is he, the Honourable Minister, who advises the Adviser what to advise. And I hasten to say that I have unreservedly enjoyed the subordinate role. Since I am on the point of leaving Pakistan, I may confess without partiality, favour or affection that I leave with an unfeigned admiration for one who, amidst a multitude of preoccupations, has always found time to grasp, with quick mind and unwavering resolution, the cultural needs of his country and, above all, those needs with which I am most closely concerned. This Museum is essentially the Honourable Minister's own creation and is a monument, or at least the integral part of a monument, to his perspicacity.

As I stand here I recall that a year ago this remarkable building was a mere godown, packed from wall to wall with dusty cases containing decayed and moulting stuffed animals, many of them of curious shapes unknown to nature. With a wave of the ministerial hand, all this was swept away. But that is not all. Less than three months ago the building was, in happy consequence, little more than an empty shell. And here, I may introduce a reference to the Archaeological Department which has since filled the void. When I arrived in Pakistan at the end of January, I asked that Department to forgo all holidays and normal hours until the Museum was ready for opening. The Department responded. Mr. Naqvi, the Superintendent of the Museum, his principal colleague Mr. Fazal Ahmad Khan, and a large and varied staff of carpenters, masons, painters, electricians, and others have worked day in and day out, Sundays included, from morning until dusk, to achieve the beginning which we witness today. To that devoted staff, I would only echo the words of a certain elder statesman: Keep it up; for today is not the end, nor even the beginning of the end. It is merely the end of the beginning. Almost everything remains yet to be done. Keep it up.

Lastly, a word about certain of the exhibits. Amongst the more permanent contents are some which will remain outstanding. His Excellency has referred to the Indus Valley collection downstairs, a collection which represents a sort of proto-Pakistan and is of its kind the best in the world. He has referred to other things such as the beautiful Moghul woodwork from Lahore, and I might add the superb illuminated copy of the Holy Quran bearing the seal of Prince Salim, afterwards the Emperor Jahangir. But I would invite special attention and for a special reason, to the collection of *modern craftsmanship* which we have assembled in this room: glazed pottery in the Persian tradition from New Hala in Sind, lacquered woodwork from the Hyderabad district, gay and attractive cloth from various parts of Pakistan. I had included muslin which I fondly supposed to be of Dacca, but the Honourable Minister for Education and Commerce scorns it as too

coarse for the refinements of the eastern capital. There are other crafts which will I hope be added in due course, such as the shell-work of Dacca or the leatherwork of Peshawar. But my point in mentioning the matter is this: Several of these crafts are today in their death-throes. The last three or four years of violent change have been too much for them. The reason is not that the craftsmen have suddenly lost their skill; but they have suddenly lost their markets. Their middlemen have gone. Much of their output was sold abroad, and most of those who formerly controlled the export market are no longer with us. Cannot something be done, Sir, before it is too late? *A craft, once dead, cannot be revived.* I have seen in my own country the most pitiful attempts to revive old things and customs. I have seen university professors put straw into their hair and, on the threadbare lawn of a garden suburb, attempt to dance obsolete rural dances which their researches have dimly recovered from limbo. Let us not here fall into that pitiful plight. Alongside industrialization, alongside the importation of machine-made goods from Japan, the U.K., or America, let us do something to reconstruct the markets upon which our village-crafts depend. The need, as I understand it, is desperate and urgent. Our little collection of Pakistani craftsmanship in this room is in the nature of an appeal.

It remains for me to express our heartfelt thanks to your Excellency for the great encouragement which your presence here today has given us, and with your Excellency's permission, to declare the formal proceedings at an end. There remain the exhibits in this building to examine and, after them, exhibits of a somewhat different kind under a shamiana on the lawn outside.

PRESENT ARRANGEMENT OF THE MUSEUM

The original arrangement in 1950 was made with the help of improvised show-cases and insufficient materials. Subsequently, under a scheme proposed by the Superintendent of the Museum, a rearrangement has gradually been carried out. The entrance-room, the main hall and back hall, and the landings and staircases are reserved for pre-Harappan, Gandhara, Taxila, Paharpur, and Mainamati antiquities respectively. The upper storey is retained for the display of material of the Muslim period, whilst the spacious stage in the main hall on the upper storey has been converted into a gallery for paintings. The new scheme of display is now as follows:

Entrance Hall

PRE-HARAPPAN GALLERY

This gallery covers the material belonging to the earlier phases of human activity in the Sub-continent. The stone implements of palaeolithic age discovered in the Soan Valley near Rawalpindi have been displayed on model terraces of the Potwar Plateau in two internally lighted window-cases, while a diorama depicts life as it existed 400,000 years ago. This visual presentation of the implements and the environment of Stone-Age man has been found extremely instructive both to students and to lay-visitors. On the left-hand side, the antiquities from Kot Diji (3000–1800 B.C.) and a diorama showing excavated remains have been exhibited. This pre-Harappan and

Harappan site, which has been excavated by Dr. F. A. Khan, is situated in Khairpur State and is one of the earliest known fortified towns in the Sub-continent. Habitation-levels going further back than Harappa and Mohenjo-daro have been revealed, along with a large number of characteristic antiquities including terracotta objects, stone implements, and pottery. There are two other newly designed show-cases in this gallery. One of them contains a relief map of the ancient Middle East showing the location of civilizations contemporary with that of the Indus Valley. Other exhibits, under controlled lighting system, include a section of a trench from Kot Diji, illustrating the technique of archaeological excavation (Pl. XXXIV, B).

Indus Valley Civilization Gallery

Next to the pre-Harappan gallery in the large hall have been displayed the antiquities excavated and collected on various sites of the Indus Valley Civilization; most of them come from Mohenjo-daro and Harappa, occupied about 2500–1500 B.C.

Amongst them a steatite figure of a god, priest, or nobleman dressed in an embroidered robe is of special note, as throwing some light on the ceremonial dress then in use. Terracottas show that women wore a skirt and jewellery in the form of necklaces and girdles, gold armlets, nose studs, and ear rings. They had a quaint style of dressing their hair with "panniers" at the side. The children played with toy-carts made of bronze and terracotta, and clay animal figurines, some of them with adjustable heads which could be moved with the help of a string. Dicing appears to have been a popular game.

A large number of well graded weights, of different sizes and in perfect uniformity, has been recovered, indicating a government strong enough to enforce the standardization of weights and measures. Utensils of various kinds were made of copper or bronze. Iron was not yet known. A large number of seals bearing inscriptions in strange characters have also been found. The pottery discovered at Mohenjo-daro consists of a variety of jars of different shapes and sizes, plain as well as painted, and tiny receptacles for holding toilet articles or cosmetics. All these and other objects are displayed with an effective background colour-scheme and lighting.

Important dating-material has been arranged in a show-case in the centre of the Hall and indicates how the methods of comparative study have helped archaeologists to determine the age of the Indus Valley Civilization. The impressive system of town-planning, well developed architectural features, and an organized civic way of life have been depicted with the help of photographic enlargements. Thus, an attempt has been made here to present as clear a picture of the life of the Indus Valley people as possible. Labels in English, Urdu, and Bengali, together with diagrams and charts, further help to elucidate the story of the exhibits.

Gandhara Gallery

The region around Peshawar, or more generally the territory south of the Hindukush and north of the Punjab, was anciently known as Gandhara.

Within it, the great Kushana Emperor, Kanishka, about A.D. 100 embraced Buddhism and became a fervent patron of the faith. During his days and those of his successors Buddhist culture reached its zenith. He invited artists and craftsmen from Iran and the West to help in the provision of images of the Buddha and the Bodhisattvas and to decorate shrines for the devotional cult of the faith. The fusion of the Buddhist forms with Mediterranean and Persian elements resulted in the phase of art which, later on, became known as the Gandhara School.

The work of this School continued till the middle of the fifth century A.D. when the savage White Huns over-ran the territory, burnt the Buddhist shrines and shattered their abundant artistry. From this calamity Gandhara never fully recovered, and when 100 years later Hiuan Tsang, the celebrated Chinese pilgrim, passed through the region, the traces of this devastation were still visible on the face of the land.

The scope of Gandhara art is well illustrated in the collections. It was not limited to religious subjects exclusively, but incidentally covered many aspects of the life of this classical land. The costumes of people from prince to ordinary citizen, the weapons of war and the chase, armour, articles of toilet and jewellery, litters, carts and carriages, horses, tools, agricultural implements, cult objects, and musical instruments are all depicted. We are also shown the people at work and play, engaged in acts of devotion, marriages, cremations, sports, etc. Dancers, musicians, travellers, ascetics, wrestlers, and robbers too are vividly depicted.

East Pakistan is also represented, mostly by terracotta panels from stupas of the eighth–twelfth centuries A.D.

The Muslim Gallery

Starting from very limited beginnings, the Muslim Gallery now contains a considerable collection of Islamic arts and crafts; manuscripts in Arabic, Persian, Urdu, Bengali, Sindhi, and Pushtu; faramin, court documents, fabrics, scientific instruments, ceramics, metal, and glass-ware. The material thus displayed in new show-cases presents a coherent outline of the varying phases of Muslim culture (Pl. XXXIV, A).

It was within less than a century of the advent of Islam that the rule of its followers reached the shores of West Pakistan. Later it extended further to the other parts of Pakistan, which has since then been primarily a unit of Islamic culture. Islamic art emerged from the selective fusion of Arab, Syrian, Byzantine, Sasanian-Persian, and later Turkish, Mongol, Chinese, and Indian traditions. The resultant complex of artistic forms thus used a variety of older techniques and styles but transmuted them in accordance with a new scale of values.

The decorative art of Islam was further embellished with script and arabesque ornamentation and intertwined bands. These geometric, floral, and calligraphic motifs were reproduced in endless combinations with taste and vigour. Representation of the human figure was, however, prohibited for the most part in the early period, though under Sasanian and Turkish influences was excluded only from public places.

The building-material normally used by the Moghuls, apart from marble, was red sandstone. In the later Moghul period, the brick core was covered first with a mosaic of specially cut monochrome tiles in blue, white, yellow, and green encaustic colours and later with square tiles on which the decoration, predominantly green but sometimes also pink or marine blue, had been painted. The tile decoration, though primarily introduced under Persian influence, also comprised local elements. Features of the paramount court style of the Moghuls infiltrated into the provinces, and we find many examples of tile decoration with local variations in Multan and the Sind region of West Pakistan.

Painting. The art of miniature painting was introduced into Pakistan by the Moghuls when the Emperor Humayun brought along with him Mir Sayyid Ali and Abd al-Samad, two painters of the Persian court of Shah Tahmasp I. Under Akbar the Great (A.D. 1556–1605) these were employed to train a number of Indo-Muslim and Hindu artists. The result was that Persian delicacy of detail and linear grace combined with the characteristic Indian palette of varied greens, glowing reds and oranges, and the fusion into a single style of the indigenous taste for scenery and figures produced a number of remarkable manuscripts and album-paintings. With the passage of time, the number of local artists grew considerably at the Moghul court and master painters like Daswanth and Basawan illustrated the famous romance of Hamza, Razm-Nama, etc. But much of their finest work was produced in the shape of isolated miniature paintings for albums depicting portraits, incidents of court life, beautiful animals, and flowers. This was executed in a style basically Safavid-Persian but indigenous in most of its detail. During the reign of the Emperor Jahangir the naturalistic tendency gained the upper hand. The careful studies of animals, birds, flowers, trees, etc., executed at this time are some of the most exquisite examples of Moghul art.

The decadence of the Moghul Empire saw the dispersal of the artists; they were induced more and more to find a secure existence in the service of local nawabs and rajas, who had by then established their independent states in the various parts of the Sub-continent. Amongst the various local schools of paintings which thus came into existence, the Hyderabad School produced some fine work in the early eighteenth century under the impact of late Deccani painting.

Calligraphy and Manuscripts. At the beginning of the Islamic era, Arabic was written in "Kufic" characters. It had three distinctive styles: (i) A rounded cursive, with elongated uprights and rectilinear connectives. This was the script of the Caliphate and was used for writing the Holy Quran up to *c.* 1000 and for other inscriptions until the fifteenth century. (ii) "Naskh", a rounded script of rather level ductus, was the characteristic writing of the Seljuq period, and since then it has been in use with a variety of decorative styles. (iii) "Nastaliq" is the most completely Persian of the forms, with a drooping ductus, strongly repetitive curvature and almost complete elimination of straight lines. It evolved gradually in the late fourteenth century and has been used mostly in the writing of Persian works. It attained the

height of its development under Moghul patronage, when it formed an important factor even in the training of royal princes. The Emperor Aurangzeb himself was an excellent scribe and specimens of the Holy Quran transcribed by him are well known. The manuscript copy of 'Diwan-a-Saib', which is in the National Museum, is an excellent piece of calligraphy, and other specimens are shown in the collection.

Ceramics and Glass. The Muslim gallery also contains a representative collection of ceramics and glassware. Some have been acquired from Sir Eldred Hitchcock's famous collection of Persian pottery of the ninth and tenth centuries A.D. The main centres of this industry were Rayy, Nishapur, and Gurgan in Persia; Raqqa in northern Mesopotamia; and Fostat in Egypt. In the Indo-Pakistan Sub-continent the ancient cities of Multan, Hala, Lahore, and Sialkot were the main sources. The collection of glass preserved in the Museum includes a beautiful flower-vase with painting in azure and red. It bears an inscription giving the name of 'Abd-al Malik. A glass tumbler shows dancing figures.

Metal. A show-case contains metal objects. They are in bronze and copper, some of them with inscriptions either in Naskh or in Nastaliq. One large bowl has a beautiful inscription around its neck with the date A.H. 914.

Miscellanea. Other minor arts include carved panels, furnishings, lacquer work with exquisite floral decoration, astrolabes, gold-inlaid steel weapons and implements, embroidered garments, carpets, and gold jewellery, showing the general range of craftsmanship patronized by the Muslims.

Manuscript Section

This section comprises about 4,000 manuscripts in Arabic, Persian, Sanskrit, Urdu, Bengali, Punjabi, Pushtu, Gurmukhi, and Hindi. Here are also preserved about 500 faramin and royal documents, and 700 specimens of calligraphy. These are often original sources of Muslim history and reflect on the social, political, and religious life of the people.

The manuscripts are generally on paper but in a few cases birch bark is used. They come from various parts of the Indo-Pakistan Sub-continent and have been acquired during the last six or seven years. The principal credit for this valuable addition to the Museum collections goes to Mr. Mumtaz Hasan, Chairman of the Museum Acquisition Committee.

Numismatic Section

The Numismatic section of the National Museum has a collection of more than 25,000 coins, largely relating to the Indo-Pakistan Sub-continent, though a few coins of other Muslim countries are included. Amongst the rarer specimens may be mentioned a gold dinar of the Umayyid Caliph, Abd al-Malik (A.H. 65–86/A.D. 685–705) which is dated A.H. 74/A.D. 693. The piece belongs to the pre-reform coinage of the Caliph, who is renowned for introducing 'Islamic currency' bearing the elements of Islamic ideology. The coin has a 'cross on steps' motif with arms of the cross suppressed on the reverse side and the figure of the caliph on the obverse. Other coins belong to Muhammad bin Sam, Ghias al Din Balban, Muhammad Shah

Khalji, Ala ud-Din Khalji, Muhammad bin Tughlaq, Feroze Shah Tughlaq, and Sher Shah Suri. Among the Moghul coinage, the Zodiacal Gold Muhr of Jahangir minted at Ajmer in A.H. 1023 and another one of Aurangzeb minted at Multan in A.H. 1076 are important.

The collection of coins is readily accessible to scholars for study.

Ethnographical Section

Rites, customs, and dresses are of high importance in the cultural study of mankind. The National Museum has therefore taken upon itself the responsibility of collecting relevant material, though, due to lack of accommodation, its display has not yet been arranged. An ethnographical gallery will, however, be organized as soon as the construction of the new museum-building is completed.

The ethnographical material already collected consists of old and new garments, dresses, jewellery, and other material representing daily life from Sind, Kafiristan, and the tribal regions of Pakistan.

Khalji, Ala-ud-Din Khalji, Muhammad bin Tughlaq, Feroz Shah Tughluq, and Sher Shah Suri. Among the Mughal coinage, the Zodiacal Gold Mohur of Jahangir minted at Ajmer in A.H. 1029 and another one of Aurangzeb minted at Multan in A.H. 1070 are important.

The collection of coins is readily accessible to scholars for study.

ETHNOGRAPHICAL SECTION

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